

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 5 CHICAGO REGIONAL LABORATORY 536 SOUTH CLARK STREET CHICAGO, ILLINOIS 60605

Date: 5/31/2018

Subject: Review of Region 5 Data for Central Sands

To: Water Division, WECA Region 5

77 West Jackson Boulevard

Chicago, IL 60604

From: Amanda Wroble, Chemist

US EPA Region 5 Chicago Regional Laboratory

The data transmitted under this cover memo successfully passed CRL's data review procedures as documented in the current Quality Management Plan and applicable Standard Operating Procedures. In accordance with the EPA QA/G-8 *Guidance on Environmental Data Verification and Data Validation* and the U.S. EPA Region 5 RMD QMP, CRL performs data verification on all the data generated internally. CRL does not perform data validation or quality assessment procedures.

This report was reviewed and the information provided herein accurately represents the analysis performed.

Amanda Wroble

Please contact the analyst with any technical report issues, Robert Thompson at (312)-353-9078 for sample project concerns, and Sylvia Griffin at (312)-353-9073 with data transmittal questions. Thank you.

Attached are Results for: Central Sands

Analyses included in this report:

Metals ICP-AES (w)



Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605 Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5Project:Central Sands77 West Jackson BoulevardProject Number:CB022018Reported:Chicago IL, 60604Project Manager:Cheryl BurdettMay-31-18 13:59

Accredited Analyses included in this Report



Method: EPA 200.7 in Water Analysis: Metals ICP-AES (w)

Analyte	Certifications
Aluminum	ISO/IEC 17025:2005
Aluminum hi	ISO/IEC 17025:2005
Antimony	ISO/IEC 17025:2005
Arsenic	ISO/IEC 17025:2005
Barium	ISO/IEC 17025:2005
Beryllium	ISO/IEC 17025:2005
Boron	ISO/IEC 17025:2005
Cadmium	ISO/IEC 17025:2005
Calcium	ISO/IEC 17025:2005
Chromium	ISO/IEC 17025:2005
Cobalt	ISO/IEC 17025:2005
Copper	ISO/IEC 17025:2005
Iron	ISO/IEC 17025:2005
Iron hi	ISO/IEC 17025:2005
Lead	ISO/IEC 17025:2005
Lithium	ISO/IEC 17025:2005
Magnesium	ISO/IEC 17025:2005
Magnesium hi	ISO/IEC 17025:2005
Manganese	ISO/IEC 17025:2005
Molybdenum	ISO/IEC 17025:2005
Nickel	ISO/IEC 17025:2005
Potassium	ISO/IEC 17025:2005
Selenium	ISO/IEC 17025:2005
Silver	ISO/IEC 17025:2005
Sodium	ISO/IEC 17025:2005
Strontium	ISO/IEC 17025:2005



Environmental Protection Agency Region 5 Chicago Regional Laboratory

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Accredited Analyses included in this Report



Method: EPA 200.7 in Water Analysis: Metals ICP-AES (w)

 Analyte
 Certifications

 Thallium
 ISO/IEC 17025:2005

 Tin
 ISO/IEC 17025:2005

 Titanium
 ISO/IEC 17025:2005

 Vanadium
 ISO/IEC 17025:2005

 Zine
 ISO/IEC 17025:2005

Analytes not listed above are not accredited by ANAB.



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Water Division, WECA Region 5 77 West Jackson Boulevard Chicago IL, 60604 Project Number: CB022018
Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

ANALYSIS CASE NARRATIVE

GENERAL INFORMATION

CRL received water samples for trace metals analysis by inductively coupled plasma-atomic emission spectroscopy (ICP-AES). The assigned work order(s) and sample numbers to which this narrative applies are listed below:

Work Order (number of samples) 1805007 (44)

Batch Number B18E017, B18E018

The designated analyst for these samples, Amanda Wroble, can be reached at 312.353.0375. All holding times were met.

Per pen & ink – 14097, the samples were not homogenized before subsampling. The samples were digested using CRL SOP METALS025, Rev. 3 (EPA Method 200.2) and analyzed using CRL SOP METALS003A, Rev. 4 (EPA Method 200.7/SW-846 Method 6010D).

SAMPLE ANALYSIS AND RESULTS

The data reported herein meet the requirements referenced in the SOP used for analysis and any laboratory specifications stated in the *Quality Assurance Project Plan/Sampling Plan for Environmental Compliance Assessment for Central Sands.* dated April 2018.

The results were reported over three analytical runs due to quality control audit failures within each run.

QUALITY CONTROL

All quality control audits that bracketed samples to which this narrative applies and the run in which a specific sample/analyte was reported were within CRL limits for the requested analytes or did not result in qualification of the data.

<u>Digestion Blank Spike and Matrix Spike (BS):</u> Blank Spike Recovery Limit = $100 \pm 15\%$; Matrix Spike Recovery Limit = $100 \pm 25\%$. Titanium recoveries for B18E018-BS2 (118%) and B18E018-MS1 (137%) were outside their respective audit limits. Titanium results for B18E018 (1805007-21 thru -44) were flagged "K" for



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potential high bias.



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WORK ORDER

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5 Project Manager: Angela Ockrassa Davis

Project: Central Sands Project Number: CB022018

Report To:

Cheryl Burdett 77 West Jackson Boulevard Phone: (312) 886-1463
Water Division, WECA Region 5 Chicago, IL 60604 Fax: (312) 886-2001

Date Due: Jun-04-18 15:00 (30 day TAT)

Yes

Received By: Robert Snyder Date Received: May-04-18 10:00
Logged In By: Robert Snyder Date Logged In: May-07-18 07:38

Samples Received at: Sample tags/labels Work Order Comments:

Copy/Relog from 1805005. Anions: Chloride and nitrate as NO3

Seals Intact Yes Full List metals

Received on ice Yes pH paper used in SC 16H2601

Paperwork Included Yes

Sample ID: 1805007-01 Sampled: May-02-18 06:38 Matrix: Water

Sample Name: D5a Sample Location/Comments: 5th Street

Sample Comments:

Ammonia N DA, Distilled 28 May-30-18 06:38 pH = 1
Anions by IC 28 May-30-18 06:38 pH = 6
Metals ICP-AES (w) 180 Oct-29-18 06:38 pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction 28 May-30-18 06:38 pH = 1
Solids, TDS 7 May-09-18 06:38 pH = 6
TKN DA 28 May-30-18 06:38 pH = 1
TOC 28 May-30-18 06:38 pH = 1
Total Phosphorus DA 28 May-30-18 06:38 pH = 1

Sample ID: <u>1805007-02</u> Sampled: <u>May-02-18 06:46</u> Matrix: <u>Water</u>

Sample Name: <u>D5b</u> Sample Location/Comments: <u>5th Street</u>

Sample Comments:

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Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 06:46	pH = 1
Anions by IC	28	May-30-18 06:46	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 06:46	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 06:46	pH = 1

Printed: 5/7/2018 9:53:28AM

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager: Project Number: Angela Ockrassa Davis

CB022018

Sample ID: <u>1805007-02</u> Sampled: <u>May-02-18 06:46</u> Matrix: <u>Water</u>

Sample Name: <u>D5b</u> Sample Location/Comments: <u>5th Street</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Solids, TDS	7	May-09-18 06:46	pH = 5	
TKN DA	28	May-30-18 06:46	pH = 1	
TOC	28	May-30-18 06:46	pH = 1	
Total Phosphorus DA	28	May-30-18 06:46	pH = 1	

Sample ID: <u>1805007-03</u> Sampled: <u>May-02-18 07:17</u> Matrix: <u>Water</u>

Sample Name: <u>D6a</u> Sample Location/Comments: <u>5th Street</u>

Sample Comments:

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Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 07:17	pH = 1
Anions by IC	28	May-30-18 07:17	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 07:17	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 07:17	pH = 1
Solids, TDS	7	May-09-18 07:17	pH = 6
TKN DA	28	May-30-18 07:17	pH = 1
TOC	28	May-30-18 07:17	pH = 1
Total Phosphorus DA	28	May-30-18 07:17	pH = 1

Sample ID: 1805007-04 Sampled: <u>May-02-18 07:29</u> Matrix: <u>Water</u>

Sample Name: <u>D6b</u> Sample Location/Comments: <u>5th Street</u>

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 07:29	p H = 1	
Anions by IC	28	May-30-18 07:29	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 07:29	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 07:29	pH = 1	
Solids, TDS	7	May-09-18 07:29	pH = 6	
TKN DA	28	May-30-18 07:29	pH = 1	
TOC	28	May-30-18 07:29	pH = 1	
Total Phosphorus DA	28	May-30-18 07:29	pH = 1	

1805007

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Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-05</u> Sampled: <u>May-02-18 08:01</u> Matrix: <u>Water</u>

Sample Name: <u>D7 equip</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 08:01	pH = 1	
Anions by IC	28	May-30-18 08:01	pH = 5	
Metals ICP-AES (w)	180	Oct-29-18 08:01	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:01	pH = 1	
Solids, TDS	7	May-09-18 08:01	pH = 5	
TKN DA	28	May-30-18 08:01	pH = 1	
TOC	28	May-30-18 08:01	pH = 1	
Total Phosphorus DA	28	May-30-18 08:01	pH = 1	

Sample ID: <u>1805007-06</u> Sampled: <u>May-02-18 08:03</u> Matrix: <u>Water</u>

Sample Name: FB3 Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:03	pH = 1
Anions by IC	28	May-30-18 08:03	pH = 4
Metals ICP-AES (w)	180	Oct-29-18 08:03	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:03	pH = 1
Solids, TDS	7	May-09-18 08:03	pH = 4
TKN DA	28	May-30-18 08:03	p H = 1
TOC	28	May-30-18 08:03	pH = 1
Total Phosphorus DA	28	May-30-18 08:03	pH = 1

Sample ID: <u>1805007-07</u> Sampled: <u>May-02-18 08:12</u> Matrix: <u>Water</u>

Sample Name: D7a Dup Sample Location/Comments: 23rd Avenue

ambie comments.				
Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 08:12	pH = 1	
Anions by IC	28	May-30-18 08:12	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 08:12	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:12	pH = 1	
Solids, TDS	7	May-09-18 08:12	pH = 6	
TKN DA	28	May-30-18 08:12	pH = 1	
TOC	28	May-30-18 08:12	pH = 1	

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Project: Central Sands

Project Manager: Project Number: Angela Ockrassa Davis

r: CB022018

Sample ID: <u>1805007-07</u> Sampled: <u>May-02-18 08:12</u> Matrix: <u>Water</u>

Sample Name: <u>D7a Dup</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

 Analysis
 Hold time (days)
 Expires
 Comments

 Total Phosphorus DA
 28
 May-30-18 08:12
 pH = 1

Sample ID: 1805007-08 Sampled: May-02-18 08:12 Matrix: Water QC Source Sample MS/MSD

Sample Name: <u>D7a</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments: MS/MSD

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:12	pH = 1
Anions by IC	28	May-30-18 08:12	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 08:12	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:12	pH = 1
Solids, TDS	7	May-09-18 08:12	pH = 6
TKN DA	28	May-30-18 08:12	pH = 1
TOC	28	May-30-18 08:12	pH = 1
Total Phosphorus DA	28	May-30-18 08:12	p H = 1

Sample ID: <u>1805007-09</u> Sampled: <u>May-02-18 08:19</u> Matrix: <u>Water</u>

Sample Name: <u>D7b</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:19	pH = 1
Anions by IC	28	May-30-18 08:19	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 08:19	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:19	pH = 1
Solids, TDS	7	May-09-18 08:19	pH = 5
TKN DA	28	May-30-18 08:19	pH = 1
TOC	28	May-30-18 08:19	pH = 1
Total Phosphorus DA	28	May-30-18 08:19	pH = 1

Sample ID: 1805007-10 Sampled: May-02-18 08:55 Matrix: Water

Sample Name: <u>D8a</u> Sample Location/Comments: <u>23rd Avenue</u>

Dampie Comments.			
Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 08:55	pH = 1
Anions by IC	28	May-30-18 08:55	pH = 6

1805007

US EPA Region 5 Chicago Regional Laboratory

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Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-10</u> Sampled: <u>May-02-18 08:55</u> <u>Matrix: Water</u>

Sample Name: D8a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Metals ICP-AES (w)	180	Oct-29-18 08:55	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 08:55	pH = 1	
Solids, TDS	7	May-09-18 08:55	pH = 6	
TKN DA	28	May-30-18 08:55	pH = 1	
тос	28	May-30-18 08:55	pH = 1	
Total Phosphorus DA	28	May-30-18 08:55	pH = 1	

Sample ID: 1805007-11 Sampled: May-02-18 09:11 Matrix: Water

Sample Name: <u>D8b</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 09:11	pH = 1	
Anions by IC	28	May-30-18 09:11	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 09:11	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 09:11	pH = 1	
Solids, TDS	7	May-09-18 09:11	pH = 6	
TKN DA	28	May-30-18 09:11	pH = 1	
TOC	28	May-30-18 09:11	pH = 1	
Total Phosphorus DA	28	May-30-18 09:11	pH = 1	

Sample ID: <u>1805007-12</u> Sampled: <u>May-02-18 09:45</u> Matrix: <u>Water</u>

Sample Name: D9a Sample Location/Comments: 23rd Avenue

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 09:45	pH = 1	
Anions by IC	28	May-30-18 09:45	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 09:45	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 09:45	pH = 1	
Solids, TDS	7	May-09-18 09:45	pH = 6	
TKN DA	28	May-30-18 09:45	pH = 1	
тос	28	May-30-18 09:45	pH = 1	
Total Phosphorus DA	28	May-30-18 09:45	pH = 1	

1805007

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Project: Central Sands

Project Manager: Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-13</u> Sampled: <u>May-02-18 09:54</u> Matrix: <u>Water</u>

Sample Name: <u>D9b</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 09:54	pH = 1
Anions by IC	28	May-30-18 09:54	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 09:54	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 09:54	pH = 1
Solids, TDS	7	May-09-18 09:54	pH = 6
TKN DA	28	May-30-18 09:54	pH = 1
TOC	28	May-30-18 09:54	pH = 1
Total Phosphorus DA	28	May-30-18 09:54	pH = 1

Sample ID: <u>1805007-14</u> Sampled: <u>May-02-18 10:29</u> Matrix: <u>Water</u>

Sample Name: <u>D10a</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 10:29	pH = 1	
Anions by IC	28	May-30-18 10:29	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 10:29	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 10:29	pH = 1	
Solids, TDS	7	May-09-18 10:29	pH = 6	
TKN DA	28	May-30-18 10:29	pH = 1	
TOC	28	May-30-18 10:29	pH = 1	
Total Phosphorus DA	28	May-30-18 10:29	pH = 1	

Sample ID: <u>1805007-15</u> Sampled: <u>May-02-18 10:29</u> Matrix: <u>Water</u>

Sample Name: D10a Dup Sample Location/Comments: 23rd Avenue

Sample Comments.			
Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 10:29	pH = 1
Anions by IC	28	May-30-18 10:29	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 10:29	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 10:29	pH = 1
Solids, TDS	7	May-09-18 10:29	pH = 6
TKN DA	28	May-30-18 10:29	pH = 1
TOC	28	May-30-18 10:29	pH = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-15</u> Sampled: <u>May-02-18 10:29</u> Matrix: <u>Water</u>

Sample Name: <u>D10a Dup</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

 Analysis
 Hold time (days)
 Expires
 Comments

 Total Phosphorus DA
 28
 May-30-18 10:29
 pH = 1

Sample ID: <u>1805007-16</u> Sampled: <u>May-02-18 10:41</u> Matrix: <u>Water</u>

Sample Name: D10b Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 10:41	pH = 1
Anions by IC	28	May-30-18 10:41	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 10:41	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 10:41	pH = 1
Solids, TDS	7	May-09-18 10:41	pH = 5
TKN DA	28	May-30-18 10:41	pH = 1
TOC	28	May-30-18 10:41	pH = 1
Total Phosphorus DA	28	May-30-18 10:41	p H = 1

Sample ID: <u>1805007-17</u> Sampled: <u>May-02-18 10:41</u> Matrix: <u>Water</u>

Sample Name: <u>D10b Dup</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 10:41	pH = 1
Anions by IC	28	May-30-18 10:41	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 10:41	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 10:41	pH = 1
Solids, TDS	7	May-09-18 10:41	pH = 5
TKN DA	28	May-30-18 10:41	pH = 1
тос	28	May-30-18 10:41	pH = 1
Total Phosphorus DA	28	May-30-18 10:41	pH = 1

Sample ID: 1805007-18 Sampled: May-02-18 11:19 Matrix: Water

Sample Name: <u>D11a</u> Sample Location/Comments: <u>23rd Avenue</u>

Dampie Comments.			
Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 11:19	pH = 1
Anions by IC	28	May-30-18 11:19	pH = 6

1805007

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Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-18</u> Sampled: <u>May-02-18 11:19</u> Matrix: <u>Water</u>

Sample Name: D11a Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Metals ICP-AES (w)	180	Oct-29-18 11:19	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 11:19	pH = 1	
Solids, TDS	7	May-09-18 11:19	pH = 6	
TKN DA	28	May-30-18 11:19	pH = 1	
TOC	28	May-30-18 11:19	pH = 1	
Total Phosphorus DA	28	May-30-18 11:19	pH = 1	

Sample ID: <u>1805007-19</u> Sampled: <u>May-02-18 11:42</u> Matrix: <u>Water</u>

Sample Name: <u>D11b</u> Sample Location/Comments: <u>23rd Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 11:42	pH = 1	
Anions by IC	28	May-30-18 11:42	pH = 5	
Metals ICP-AES (w)	180	Oct-29-18 11:42	p H = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 11:42	p H = 1	
Solids, TDS	7	May-09-18 11:42	pH = 5	
TKN DA	28	May-30-18 11:42	pH = 1	
тос	28	May-30-18 11:42	pH = 1	
Total Phosphorus DA	28	May-30-18 11:42	pH = 1	

Sample ID: <u>1805007-20</u> Sampled: <u>May-02-18 12:41</u> Matrix: <u>Water</u>

Sample Name: E1a Sample Location/Comments: 23rd Avenue

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 12:41	p H = 1
Anions by IC	28	May-30-18 12:41	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 12:41	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 12:41	pH = 1
Solids, TDS	7	May-09-18 12:41	pH = 6
TKN DA	28	May-30-18 12:41	p H = 1
TOC	28	May-30-18 12:41	pH = 1
Total Phosphorus DA	28	May-30-18 12:41	p H = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-21</u> Sampled: <u>May-02-18 12:58</u> <u>Matrix: Water</u>

Sample Name: E1b Sample Location/Comments: 23rd Avenue

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 12:58	pH = 1	
Anions by IC	28	May-30-18 12:58	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 12:58	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 12:58	pH = 1	
Solids, TDS	7	May-09-18 12:58	pH = 6	
TKN DA	28	May-30-18 12:58	pH = 1	
TOC	28	May-30-18 12:58	pH = 1	
Total Phosphorus DA	28	May-30-18 12:58	pH = 1	

Sample ID: <u>1805007-22</u> Sampled: <u>May-02-18 13:28</u> Matrix: <u>Water</u>

Sample Name: <u>E2a</u> Sample Location/Comments: <u>Porter Road</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 13:28	pH = 1	
Anions by IC	28	May-30-18 13:28	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 13:28	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 13:28	pH = 1	
Solids, TDS	7	May-09-18 13:28	pH = 6	
TKN DA	28	May-30-18 13:28	pH = 1	
TOC	28	May-30-18 13:28	pH = 1	
Total Phosphorus DA	28	May-30-18 13:28	pH = 1	

Sample ID: <u>1805007-23</u> Sampled: <u>May-02-18 13:37</u> Matrix: <u>Water</u>

Sample Name: <u>E2b</u> Sample Location/Comments: <u>Porter Road</u>

sampie Comments:				
Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 13:37	pH = 1	
Anions by IC	28	May-30-18 13:37	pH = 5	
Metals ICP-AES (w)	180	Oct-29-18 13:37	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 13:37	pH = 1	
Solids, TDS	7	May-09-18 13:37	pH = 5	
TKN DA	28	May-30-18 13:37	pH = 1	
TOC	28	May-30-18 13:37	pH = 1	

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-23</u> Sampled: <u>May-02-18 13:37</u> Matrix: <u>Water</u>

Sample Name: <u>E2b</u> Sample Location/Comments: <u>Porter Road</u>

Sample Comments:

 Analysis
 Hold time (days)
 Expires
 Comments

 Total Phosphorus DA
 28
 May-30-18 13:37
 pH = 1

Sample ID: <u>1805007-24</u> Sampled: <u>May-02-18 13:28</u> Matrix: <u>Water</u>

Sample Name: E2a Dup Sample Location/Comments: Porter Road

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 13:28	p H = 1
Anions by IC	28	May-30-18 13:28	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 13:28	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 13:28	pH = 1
Solids, TDS	7	May-09-18 13:28	pH = 6
TKN DA	28	May-30-18 13:28	pH = 1
TOC	28	May-30-18 13:28	pH = 1
Total Phosphorus DA	28	May-30-18 13:28	pH = 1

Sample ID: <u>1805007-25</u> Sampled: <u>May-02-18 13:37</u> Matrix: <u>Water</u>

Sample Name: <u>E2b Dup</u> Sample Location/Comments: <u>Porter Road</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 13:37	pH = 1
Anions by IC	28	May-30-18 13:37	pH = 5
Metals ICP-AES (w)	180	Oct-29-18 13:37	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 13:37	pH = 1
Solids, TDS	7	May-09-18 13:37	pH = 5
TKN DA	28	May-30-18 13:37	pH = 1
тос	28	May-30-18 13:37	pH = 1
Total Phosphorus DA	28	May-30-18 13:37	pH = 1

Sample ID: 1805007-26 Sampled: May-02-18 14:03 Matrix: Water

Sample Name: E3a Sample Location/Comments: 7th Street

Sample Commenter			
Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 14:03	pH = 1
Anions by IC	28	May-30-18 14:03	pH = 6

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US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-26</u> Sampled: <u>May-02-18 14:03</u> Matrix: <u>Water</u>

Sample Name: E3a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Metals ICP-AES (w)	180	Oct-29-18 14:03	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 14:03	pH = 1	
Solids, TDS	7	May-09-18 14:03	pH = 6	
TKN DA	28	May-30-18 14:03	pH = 1	
TOC	28	May-30-18 14:03	pH = 1	
Total Phosphorus DA	28	May-30-18 14:03	pH = 1	

Sample ID: <u>1805007-27</u> Sampled: <u>May-02-18 14:09</u> Matrix: <u>Water</u>

Sample Name: E3b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 14:09	pH = 1	
Anions by IC	28	May-30-18 14:09	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 14:09	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 14:09	pH = 1	
Solids, TDS	7	May-09-18 14:09	pH = 6	
TKN DA	28	May-30-18 14:09	pH = 1	
тос	28	May-30-18 14:09	pH = 1	
Total Phosphorus DA	28	May-30-18 14:09	pH = 1	

Sample ID: <u>1805007-28</u> Sampled: <u>May-02-18 14:37</u> Matrix: <u>Water</u>

Sample Name: <u>E4a</u> Sample Location/Comments: <u>7th Street</u>

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 14:37	pH = 1
Anions by IC	28	May-30-18 14:37	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 14:37	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 14:37	pH = 1
Solids, TDS	7	May-09-18 14:37	pH = 6
TKN DA	28	May-30-18 14:37	p H = 1
TOC	28	May-30-18 14:37	p H = 1
Total Phosphorus DA	28	May-30-18 14:37	p H = 1

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-29</u> Sampled: <u>May-02-18 14:43</u> Matrix: <u>Water</u>

Sample Name: <u>E4b</u> Sample Location/Comments: <u>7th Street</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 14:43	pH = 1	
Anions by IC	28	May-30-18 14:43	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 14:43	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 14:43	pH = 1	
Solids, TDS	7	May-09-18 14:43	pH = 6	
TKN DA	28	May-30-18 14:43	pH = 1	
TOC	28	May-30-18 14:43	pH = 1	
Total Phosphorus DA	28	May-30-18 14:43	pH = 1	

Sample ID: <u>1805007-30</u> Sampled: <u>May-02-18 15:08</u> Matrix: <u>Water</u>

Sample Name: E5a Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 15:08	pH = 1
Anions by IC	28	May-30-18 15:08	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 15:08	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 15:08	p H = 1
Solids, TDS	7	May-09-18 15:08	pH = 6
TKN DA	28	May-30-18 15:08	p H = 1
TOC	28	May-30-18 15:08	pH = 1
Total Phosphorus DA	28	May-30-18 15:08	p H = 1

Sample ID: <u>1805007-31</u> Sampled: <u>May-02-18 15:13</u> Matrix: <u>Water</u>

Sample Name: <u>E5b</u> Sample Location/Comments: <u>7th Street</u>

ampie comments:				
Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 15:13	pH = 1	
Anions by IC	28	May-30-18 15:13	pH = 6	
Metals ICP-AES (w)	180	Oct-29-18 15:13	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 15:13	pH = 1	
Solids, TDS	7	May-09-18 15:13	pH = 6	
TKN DA	28	May-30-18 15:13	pH = 1	
TOC	28	May-30-18 15:13	pH = 1	

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US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager: Project Number: Angela Ockrassa Davis

CB022018

Sample ID: <u>1805007-31</u> Sampled: <u>May-02-18 15:13</u> Matrix: <u>Water</u>

Sample Name: E5b Sample Location/Comments: 7th Street

Sample Comments:

 Analysis
 Hold time (days)
 Expires
 Comments

 Total Phosphorus DA
 28
 May-30-18 15:13
 pH = 1

Sample ID: <u>1805007-32</u> Sampled: <u>May-02-18 15:38</u> Matrix: <u>Water</u>

Sample Name: <u>E6a</u> Sample Location/Comments: <u>20th Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 15:38	pH = 1
Anions by IC	28	May-30-18 15:38	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 15:38	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 15:38	pH = 1
Solids, TDS	7	May-09-18 15:38	pH = 6
TKN DA	28	May-30-18 15:38	pH = 1
TOC	28	May-30-18 15:38	pH = 1
Total Phosphorus DA	28	May-30-18 15:38	p H = 1

Sample ID: <u>1805007-33</u> Sampled: <u>May-02-18 15:44</u> Matrix: <u>Water</u>

Sample Name: <u>E6b</u> Sample Location/Comments: <u>20th Avenue</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-30-18 15:44	pH = 1
Anions by IC	28	May-30-18 15:44	pH = 6
Metals ICP-AES (w)	180	Oct-29-18 15:44	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 15:44	p H = 1
Solids, TDS	7	May-09-18 15:44	pH = 6
TKN DA	28	May-30-18 15:44	pH = 1
тос	28	May-30-18 15:44	pH = 1
Total Phosphorus DA	28	May-30-18 15:44	pH = 1

Sample ID: 1805007-34 Sampled: May-02-18 16:09 Matrix: Water

Sample Name: <u>E7a</u> Sample Location/Comments: <u>7th Street</u>

Sample Commence.				
Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 16:09	pH = 1	
Anions by IC	28	May-30-18 16:09	pH = 5	

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US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager: Project Number: Angela Ockrassa Davis

CB022018

Sample ID: <u>1805007-34</u> Sampled: <u>May-02-18 16:09</u> Matrix: <u>Water</u>

Sample Name: <u>E7a</u> Sample Location/Comments: <u>7th Street</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Metals ICP-AES (w)	180	Oct-29-18 16:09	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 16:09	pH = 1	
Solids, TDS	7	May-09-18 16:09	pH = 5	
TKN DA	28	May-30-18 16:09	pH = 1	
TOC	28	May-30-18 16:09	pH = 1	
Total Phosphorus DA	28	May-30-18 16:09	pH = 1	

Sample ID: <u>1805007-35</u> Sampled: <u>May-02-18 16:35</u> Matrix: <u>Water</u>

Sample Name: <u>E7b</u> Sample Location/Comments: <u>7th Street</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-30-18 16:35	pH = 1	
Anions by IC	28	May-30-18 16:35	pH = 5	
Metals ICP-AES (w)	180	Oct-29-18 16:35	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-30-18 16:35	pH = 1	
Solids, TDS	7	May-09-18 16:35	pH = 5	
TKN DA	28	May-30-18 16:35	pH = 1	
тос	28	May-30-18 16:35	pH = 1	
Total Phosphorus DA	28	May-30-18 16:35	pH = 1	

Sample ID: <u>1805007-36</u> Sampled: <u>May-03-18 08:40</u> Matrix: <u>Water</u>

Sample Name: E8a Sample Location/Comments: 7th Street

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-31-18 08:40	pH = 1	
Anions by IC	28	May-31-18 08:40	pH = 5	
Metals ICP-AES (w)	180	Oct-30-18 08:40	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 08:40	pH = 1	
Solids, TDS	7	May-10-18 08:40	pH = 5	
TKN DA	28	May-31-18 08:40	pH = 1	
TOC	28	May-31-18 08:40	pH = 1	
Total Phosphorus DA	28	May-31-18 08:40	pH = 1	

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US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager:

Angela Ockrassa Davis

Project Number: CB022018

Sample ID: <u>1805007-37</u> Sampled: <u>May-03-18 08:48</u> Matrix: <u>Water</u>

Sample Name: E8b Sample Location/Comments: 7th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-31-18 08:48	pH = 1	
Anions by IC	28	May-31-18 08:48	pH = 6	
Metals ICP-AES (w)	180	Oct-30-18 08:48	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 08:48	pH = 1	
Solids, TDS	7	May-10-18 08:48	pH = 6	
TKN DA	28	May-31-18 08:48	pH = 1	
TOC	28	May-31-18 08:48	pH = 1	
Total Phosphorus DA	28	May-31-18 08:48	pH = 1	

Sample ID: <u>1805007-38</u> Sampled: <u>May-03-18 07:15</u> Matrix: <u>Water</u>

Sample Name: E10a Sample Location/Comments: 8th Street

Sample Comments:

ampic comments.			
Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 07:15	pH = 1
Anions by IC	28	May-31-18 07:15	pH = 6
Metals ICP-AES (w)	180	Oct-30-18 07:15	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:15	pH = 1
Solids, TDS	7	May-10-18 07:15	pH = 6
TKN DA	28	May-31-18 07:15	pH = 1
TOC	28	May-31-18 07:15	pH = 1
Total Phosphorus DA	28	May-31-18 07:15	pH = 1

Sample ID: <u>1805007-39</u> Sampled: <u>May-03-18 07:15</u> Matrix: <u>Water</u>

Sample Name: E10a Dup Sample Location/Comments: 8th Street

ampie Comments.				
Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-31-18 07:15	pH = 1	
Anions by IC	28	May-31-18 07:15	pH = 6	
Metals ICP-AES (w)	180	Oct-30-18 07:15	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:15	p H = 1	
Solids, TDS	7	May-10-18 07:15	pH = 6	
TKN DA	28	May-31-18 07:15	pH = 1	
TOC	28	May-31-18 07:15	pH = 1	

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager: Project Number: Angela Ockrassa Davis

CB022018

Sample ID: <u>1805007-39</u> Sampled: <u>May-03-18 07:15</u> Matrix: <u>Water</u>

Sample Name: E10a Dup Sample Location/Comments: 8th Street

Sample Comments:

 Analysis
 Hold time (days)
 Expires
 Comments

 Total Phosphorus DA
 28
 May-31-18 07:15
 pH = 1

Sample ID: <u>1805007-40</u> Sampled: <u>May-03-18 07:27</u> Matrix: <u>Water</u>

Sample Name: E10b Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 07:27	pH = 1
Anions by IC	28	May-31-18 07:27	pH = 6
Metals ICP-AES (w)	180	Oct-30-18 07:27	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:27	pH = 1
Solids, TDS	7	May-10-18 07:27	pH = 6
TKN DA	28	May-31-18 07:27	pH = 1
TOC	28	May-31-18 07:27	p H = 1
Total Phosphorus DA	28	May-31-18 07:27	pH = 1

Sample ID: <u>1805007-41</u> Sampled: <u>May-03-18 07:36</u> Matrix: <u>Water</u>

Sample Name: FB4 Sample Location/Comments: 8th Street

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 07:36	pH = 1
Anions by IC	28	May-31-18 07:36	pH = 4
Metals ICP-AES (w)	180	Oct-30-18 07:36	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 07:36	pH = 1
Solids, TDS	7	May-10-18 07:36	pH = 4
TKN DA	28	May-31-18 07:36	pH = 1
тос	28	May-31-18 07:36	pH = 1
Total Phosphorus DA	28	May-31-18 07:36	pH = 1

Sample ID: 1805007-42 Sampled: May-03-18 07:13 Matrix: Water

Sample Name: E10 Equip Sample Location/Comments: 8th Street

Sample Commences				
Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-31-18 07:13	pH = 1	
Anions by IC	28	May-31-18 07:13	pH = 4	

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US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5

Project: Central Sands

Project Manager: Project Number: Angela Ockrassa Davis

CB022018

Sample ID: <u>1805007-42</u> Sampled: <u>May-03-18 07:13</u> Matrix: <u>Water</u>

Sample Name: E10 Equip Sample Location/Comments: 8th Street

Sample Comments:

Hold time (days)	Expires	Comments	
180	Oct-30-18 07:13	pH = 1	
28	May-31-18 07:13	pH = 1	
7	May-10-18 07:13	pH = 4	
28	May-31-18 07:13	pH = 1	
28	May-31-18 07:13	pH = 1	
28	May-31-18 07:13	pH = 1	
	180 28 7 28 28	180 Oct-30-18 07:13 28 May-31-18 07:13 7 May-10-18 07:13 28 May-31-18 07:13 28 May-31-18 07:13	180 Oct-30-18 07:13 pH = 1 28 May-31-18 07:13 pH = 1 7 May-10-18 07:13 pH = 4 28 May-31-18 07:13 pH = 1 28 May-31-18 07:13 pH = 1

Sample ID: 1805007-43 Sampled: May-03-18 09:53 Matrix: Water

Sample Name: <u>E9a</u> Sample Location/Comments: <u>7th Street</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments	
Ammonia N DA, Distilled	28	May-31-18 09:53	pH = 1	
Anions by IC	28	May-31-18 09:53	pH = 5	
Metals ICP-AES (w)	180	Oct-30-18 09:53	pH = 1	
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 09:53	pH = 1	
Solids, TDS	7	May-10-18 09:53	pH = 5	
TKN DA	28	May-31-18 09:53	pH = 1	
тос	28	May-31-18 09:53	pH = 1	
Total Phosphorus DA	28	May-31-18 09:53	pH = 1	

Sample ID: 1805007-44 Sampled: May-03-18 10:02 Matrix: Water

Sample Name: <u>E9b</u> Sample Location/Comments: <u>7th Street</u>

Sample Comments:

Analysis	Hold time (days)	Expires	Comments
Ammonia N DA, Distilled	28	May-31-18 10:02	pH = 1
Anions by IC	28	May-31-18 10:02	pH = 5
Metals ICP-AES (w)	180	Oct-30-18 10:02	pH = 1
Nitrate-Nitrite N DA, Enzymatic reduction	28	May-31-18 10:02	pH = 1
Solids, TDS	7	May-10-18 10:02	pH = 5
TKN DA	28	May-31-18 10:02	p H = 1
тос	28	May-31-18 10:02	pH = 1
Total Phosphorus DA	28	May-31-18 10:02	pH = 1

Reviewed By Date

1805007

US EPA Region 5 Chicago Regional Laboratory

Client: Water Division, WECA Region 5 Project Manager: Angela Ockrassa Davis

Project: Central Sands Project Number: CB022018

PROJECT COMMENTS: Anions: Chloride, fluoride, bromide, sullfate.

Full List metals

REVIEWED

By Robert Thompson at 9:54 am, May 07, 2018



Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605 Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5 77 West Jackson Boulevard Chicago IL, 60604 Project Number: CB022018
Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

95a (1805007-01)	Matrix: Water	Sam	pled: May-	-02-18 06:38	Rece	ived: May-04	I-18 10:00		
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.65			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	n n	11	II .	li .	#
Arsenic	U			0.0400	n	n	И	II.	n
Barium	0.409			0.003	n	11	р	"	"
Beryllium	U			0.002	н	н	n	n	n
Boron	U			0.0500	н	H	В	19	
Cadmium	U			0.002	n	н	В	н	н
Calcium	60.5			0.200	n	н	В	11	11
Chromium	0.406			0.005	п	н	В	11	n
Cobalt	0.0176			0.006	п	н	IJ	n	n
Copper	0.167			0.0200	п	н	в	ij	15
Iron	58.9			0.0800	n	н	И	н	н
Lead	U			0.0300	n	н	В	II .	II .
Lithium	U			0.0250	п	н	п	n.	n
Magnesium	28.8			0.200	"	н	В	15	н
Manganese	4.84			0.008	n	н	В	н	ij
Molybdenum	0.0504			0.0120	n	н	И	н	н
Nickel	0.0835			0.0120	"	н	11	"	"
Potassium	3.43			0.800	n	н	n	n	May-21-18
Selenium	U			0.0500	"	н	В	11	May-10-18
Silver	U			0.0100	"	п	В	н	н
Sodium	2.58			0.400	н	н	В	II .	n
Strontium	0.0808			0.003	н	н	U	"	n .
Thallium	U			0.0600	и	н	n	n	n
Tin	U			0.0200	"	н	II .	II.	н
Titanium	0.0473			0.006	n	n	H	II .	11
Vanadium	0.0122			0.005	"	"	h	"	"
Zinc	0.0336			0.0300	н	н	n	n .	n



Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605 Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

Antimony U 0,0000	95b (1805007-02)	Matrix: Water	Samp	pled: May	-02-18 06:46	Rece	ived: May-04	I-18 10:00		
Antimony U 0,0000 ' ' ' ' ' ' ' ' ' ' ' ' ' ' ' '	Analyte	Result		MDL		Units	Dilution	Batch	Prepared	Analyzed
Arsenic	Aluminum	10.6			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Barium	Antimony	U			0.0200	п	II .	IJ	0	n
Beryllium	Arsenic	U			0.0400	"	"	H	11	11
Servinda	Barium	0.332			0.003	п	n	n.	H	н
Cadmins U 0.002 ' <th< td=""><td>Beryllium</td><td>U</td><td></td><td></td><td>0.002</td><td>п</td><td>H</td><td>ij</td><td>H</td><td>п</td></th<>	Beryllium	U			0.002	п	H	ij	H	п
Calcium 14.4 0.200 "	Boron	U			0.0500	н	II II	Ŋ	"	n.
Chromium O.182 O.0948 O.0050 O.0070 O.0070 O.0070 O.0080 O.008	Cadmium	U			0.002	н	н	n	D	n
Chromium 0.182 0.0006 "	Calcium	14.4			0.200	п	H	и	Ŋ	15
Copper 0.0750 0.0200 "	Chromium	0.182			0.005	n	n	Ħ	и	н
Part	Cobalt	0.0248			0.006	9	H	Ŋ	н	В
Holin 273 500000 Lead U 0.03000 "	Copper	0.0750			0.0200	н	н	ij	n.	n .
Lithium U 0.0250 " <t< td=""><td>Iron</td><td>27.5</td><td></td><td></td><td>0.0800</td><td>п</td><td>ii</td><td>й</td><td>n</td><td>В</td></t<>	Iron	27.5			0.0800	п	ii	й	n	В
Magnesium 4.94 0.200 "	Lead	U			0.0300	н	H	ij	В	В
Manganese 2.88 0.008 "	Lithium	U			0.0250	п	п	И	И	В
Molybdenum 0.0179 0.0120 " May-10-18 Selenium U 0.0500 " " " " " May-10-18 Selenium "	Magnesium	4.94			0.200	н	H	11	11	II .
Nickel 0.0379 0.0120 " " " " " " May-21-18 Potassium 2.25 0.800 " " " " May-10-18 Selenium U 0.0500 " " " " May-10-18 Silver U 0.0100 " May-10-18 Silver U 0.0100 "	Manganese	2.88			0.008	п	н	Ħ	D	n
Potassium 2.25 0.800 " " " May-21-18 Selenium U 0.0500 " " " May-10-18 Silver U 0.0100 "	Molybdenum	0.0179			0.0120	п	H	и	n	В
Sclenium U 0.0500 " " " May-10-18 Silver U 0.0100 " <t< td=""><td>Nickel</td><td>0.0379</td><td></td><td></td><td>0.0120</td><td>н</td><td>ii</td><td>Ĥ</td><td>В</td><td>В</td></t<>	Nickel	0.0379			0.0120	н	ii	Ĥ	В	В
Silver U 0.0100 " <th< td=""><td>Potassium</td><td>2.25</td><td></td><td></td><td>0.800</td><td>н</td><td>н</td><td>И</td><td>II .</td><td>May-21-18</td></th<>	Potassium	2.25			0.800	н	н	И	II .	May-21-18
Sodium 1.73 0.400 " <	Selenium	U			0.0500	н	н	ij	II .	May-10-18
Strontium 0.0677 0.003 "	Silver	U			0.0100	п	н	и	n	D
Thallium U 0.0600 " <	Sodium	1.73			0.400	"	"	n	II .	н
Tin U 0.0200 "<	Strontium	0.0677			0.003	n	n	н	В	п
Titanium 0.0655 0.006 "	Thallium	U			0.0600	"	"	и	II .	n n
Vanadium 0.0488 0.005 " " " " " " "	Tin	U			0.0200	п	н	n	n .	n
vanauum 0.0400 0.000	Titanium	0.0655			0.006	"	n	н	15	В
Zinc 0.0560 0.0300 " " " " "	Vanadium	0.0488			0.005	"	"	U	И	п
	Zinc	0.0560			0.0300	п	n	И	н	В



Chicago Regional Laboratory

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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D6a (1805007-03)	Matrix: Water		Sampled: May-02-18 07:17		Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.94			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	н	н	ıı	n	n
Arsenic	\mathbf{U}			0.0400	n	,,	ii	15	15
Barium	0.237			0.003	n	"	II .	II.	II .
Beryllium	U			0.002	н	н	n	В	n .
Boron	0.0949			0.0500	п	H	"	"	"
Cadmium	U			0.002	п	H	n	0	"
Calcium	154			0.200	n	H	n	"	"
Chromium	0.217			0.005	n	n	"	II.	n .
Cobalt	0.0097			0.006	n	H	Ŋ	H	!!
Copper	0.0730			0.0200	н	н	n	"	"
Iron	30.3			0.0800	п	н	n	n .	n
Lead	U			0.0300	п	H	n	В	н
Lithium	U			0.0250	п	n	IJ	н	II.
Magnesium hi	85.4			0.200	п	H	IJ	"	"
Manganese	0.658			0.008	п	н	n	n	"
Molybdenum	0.0350			0.0120	п	N	"	II	"
Nickel	0.0426			0.0120	п	H	n	В	н
Potassium	10.5			0.800	п	п	p	"	May-21-18
Selenium	U			0.0500	п	н	n	"	May-10-18
Silver	U			0.0100	п	н	13	n	n
Sodium	16.2			0.400	"	n n	II .	11	"
Strontium	0.517			0.003	n	n	И	н	IF
Thallium	U			0.0600	н	H	В	II	ıı
Tin	U			0.0200	н	н	н	II .	II.
Titanium	0.0383			0.006	п	n	и	и	В
Vanadium	0.0086			0.005	"	II .	IJ	И	и
Zinc	U			0.0300	n	n	11	В	II.



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Water Division, WECA Region 5ProjectCentral Sands77 West Jackson BoulevardProject Number:CB022018Chicago IL, 60604Project Manager:Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D6b (1805007-04)	Matrix: Water	Samp	oled: May	-02-18 07:29	Rece	ived: May-04	I-18 10:00		
Analyte		Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.08			0.200	mg/L	l	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	H	n	n	n
Arsenic	U			0.0400	п	H	Ŋ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Barium	0.165			0.003	п	H	H.	H	11
Beryllium	U			0.002	н	H	и	H	H.
Boron	0.0982			0.0500	п	H	н	"	"
Cadmium	U			0.002	п	Ħ	н	n	n
Calcium	138			0.200	n .	II.	н	Ŋ	15
Chromium	0.324			0.005	n	Ħ	и	Ħ	н
Cobalt	0.0132			0.006	п	IJ	н	H	u
Copper	0.117			0.0200	п	н	п	n.	n .
Iron	43.8			0.0800	n	Й	и	ij	n
Lead	U			0.0300	n	ij	В	В	В
Lithium	U			0.0250	п	н	И	И	п
Magnesium hi	65.0			0.200	"	ři	н	"	"
Manganese	1.26			0.008	п	И	и	n	n
Molybdenum	0.0405			0.0120	n	И	и	II	n .
Nickel	0.0576			0.0120	n	II.	В	В	В
Potassium	25.8			0.800	n	Ħ	В	11	May-21-18
Selenium	U			0.0500	н	Й	н	ij	May-10-18
Silver	U			0.0100	н	И	и	n	n
Sodium	13.3			0.400	"	"	В	И	11
Strontium	0.197			0.003	n	n	И	н	В
Thallium	U			0.0600	n	H	В	"	"
Tin	U			0.0200	н	И	п	n .	n
Titanium	0.0334			0.006	"	n	9	11	11
Vanadium	0.0123			0.005	"	II .	n n	II .	н
Zinc	0.0751			0.0300	n	n	н	н	н



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Water Division, WECA Region 5
Project: Central Sands

77 West Jackson Boulevard
Project Number: CB022018
Chicago IL, 60604
Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D7 equip (1805007-05)	Matrix	: Water	Sampled:	May-02-18 (08:01	Received: May-04-18 10:00			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	U			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	n	н	11	n	n
Arsenic	U			0.0400	"	"	n	II	11
Barium	U			0.003	"	n	"	II .	II .
Beryllium	U			0.002	n	п	11	W .	"
Boron	U			0.0500	11	н	"	li .	"
Cadmium	U			0.002	"	н	11	n	n
Calcium	U			0.200	"	н	н	9	
Chromium	U			0.005	n	п	U	ij	п
Cobalt	U			0.006	11	n	h	ii.	и
Copper	U			0.0200	н	н	n	W.	n
Iron	U			0.0800	n	н	ij	11	11
Lead	U			0.0300	"	н	B	Ħ	н
Lithium	U			0.0250	п	п	Ŋ	И	п
Magnesium	${f U}$			0.200	#	11	19	"	"
Manganese	U			0.008	п	н	ıı	n	n
Molybdenum	U			0.0120	н	п	n	IJ	В
Nickel	U			0.0120	н	н	H	В	В
Potassium	U			0.800	п	н	В	11	May-21-18
Selenium	U			0.0500	н	н	IJ	"	May-10-18
Silver	U			0.0100	н	н	IJ	Ü	n
Sodium	U			0.400	"	п	IJ	И	н
Strontium	U			0.003	n	п	N	н	В
Thallium	U			0.0600	н	н	и	"	n
Tin	U			0.0200	н	н	n	W.	n
Titanium	U			0.006	n	н	И	И	В
Vanadium	U			0.005	n	n	II .	II	н
Zinc	U			0.0300	n	п	H	И	н



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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

Antimony Arsenic Arsenic Barlum U 0.003	FB3 (1805007-06)	Matrix: Water	Samj	pled: May	-02-18 08:03	Rece	ived: May-04	I-18 10:00		
Antimony Arsence Bardun U 0,0400 0	Analyte	Result		MDL		Units	Dilution	Batch	Prepared	Analyzed
Associace U 0.0400 *	Aluminum	U			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Barium	Antimony	U			0.0200	п	н	и	n	n
Partition	Arsenic	U			0.0400	"	H	Ŋ	19	
Born U 0.0500 " " " " Cadnium U 0.002 " " " " " Calcium U 0.200 "	Barium	U			0.003	"	n	II.	II.	11
Cadmium	Beryllium	U			0.002	n	H	н	II.	n .
Calcium U 0.200 " <th< td=""><td>Boron</td><td>U</td><td></td><td></td><td>0.0500</td><td>н</td><td>н</td><td>n</td><td>"</td><td>"</td></th<>	Boron	U			0.0500	н	н	n	"	"
Chronium	Cadmium	U			0.002	n	н	п	n	0
Cobalt	Calcium	${f U}$			0.200	п	н	В	19	15
Copper U 0.0200 " <th< td=""><td>Chromium</td><td>U</td><td></td><td></td><td>0.005</td><td>n</td><td>n</td><td>В</td><td>н</td><td>n</td></th<>	Chromium	U			0.005	n	n	В	н	n
Inn	Cobalt	U			0.006	n	н	р	и	n.
Trino	Copper	U			0.0200	п	н	n	n.	"
Lithium U 0.0250 " <t< td=""><td>Iron</td><td>U</td><td></td><td></td><td>0.0800</td><td>п</td><td>н</td><td>п</td><td>n</td><td>II .</td></t<>	Iron	U			0.0800	п	н	п	n	II .
Magnesium U 0.200 " <	Lead	U			0.0300	"	n .	В	н	и
Manganese U 0.008 " <	Lithium	U			0.0250	n	n	IJ	II .	"
Molybdenum U 0.0120 " May-10-18 Selenium U 0.0500 " " " " May-10-18 May-10-18 Selenium U 0.0100 " " " " " May-10-18 May-10-18 Selenium U 0.0400 "	Magnesium	U			0.200	п	н	п	"	"
Nickel U 0.0120 " " " " " " " " " " " " May-21-18 Potassium U 0.800 " " " " May-10-18 Selenium U 0.0500 " " " " May-10-18 Silver U 0.0100 " <t< td=""><td>Manganese</td><td>U</td><td></td><td></td><td>0.008</td><td>н</td><td>н</td><td>п</td><td>n</td><td>n</td></t<>	Manganese	U			0.008	н	н	п	n	n
Potassium U 0.800 " " " May-21-18 Selenium U 0.0500 " " " May-10-18 Silver U 0.0100 " <	Molybdenum	U			0.0120	п	"	n	"	"
Selenium U 0.0500 " " " May-10-18 Silver U 0.0100 " <t< td=""><td>Nickel</td><td>U</td><td></td><td></td><td>0.0120</td><td>n</td><td>n</td><td>н</td><td>н</td><td>н</td></t<>	Nickel	U			0.0120	n	n	н	н	н
Silver U 0.0100 " <th< td=""><td>Potassium</td><td>U</td><td></td><td></td><td>0.800</td><td>"</td><td>n</td><td>В</td><td>"</td><td>May-21-18</td></th<>	Potassium	U			0.800	"	n	В	"	May-21-18
Sodium U 0.400 "	Selenium	U			0.0500	п	n	п	"	May-10-18
Strontium U 0.003 " <	Silver	U			0.0100	п	п	n	n	n
Strontium U 0.003 " <	Sodium	U			0.400	"	"	n	"	"
Tin U 0.0200 "<	Strontium	U			0.003	n	n	И	н	II.
Titanium U 0.006 " <t< td=""><td>Thallium</td><td>U</td><td></td><td></td><td>0.0600</td><td>"</td><td>n .</td><td>р</td><td>"</td><td>"</td></t<>	Thallium	U			0.0600	"	n .	р	"	"
Vanadium U 0.005 " " " " " "	Tin	U			0.0200	n	n	п	"	"
vanadum C 5.555	Titanium	U			0.006	"	n .	н	11	11
Zinc U 0.0300 " " " " "	Vanadium	U			0.005	"	"	II .	II .	II .
	Zinc	U			0.0300	n	n	И	II.	п



Chicago Regional Laboratory

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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D7a Dup (1805007-07)	Matrix	: Water	Sampled:	May-02-18 (08:12	Received: M	ay-04-18 10:	00	
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.07			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	п	н	и	n	D
Arsenic	U			0.0400	"	n	Ŋ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Barium	0.136			0.003	n	n .	n .	н	11
Beryllium	U			0.002	п	н	н	H	H
Boron	U			0.0500	n	H	n	"	11
Cadmium	U			0.002	п	н	п	n	1)
Calcium	118			0.200	n n	"	В	Ŋ	15
Chromium	0.0286			0.005	п	п	В	И	и
Cobalt	0.0269			0.006	н	п	р	и	n.
Copper	0.0432			0.0200	н	н	n	n.	n .
Iron	7.25			0.0800	н	н	п	n	n
Lead	U			0.0300	п	n	В	н	н
Lithium	U			0.0250	n	n	ij	II .	11
Magnesium hi	52.7			0.200	н	н	п)I	"
Manganese	2.13			0.008	н	н	п	n	0
Molybdenum	U			0.0120	n	н	n	"	0
Nickel	0.0333			0.0120	п	n	В	н	н
Potassium	2.24			0.800	n	н	В	II .	May-21-18
Selenium	U			0.0500	н	н	п	"	May-10-18
Silver	U			0.0100	н	н	п	n	n
Sodium	5.20			0.400	"	"	II .	II .	"
Strontium	0.186			0.003	n	n	н	п	п
Thallium	U			0.0600	n	n	п	"	n .
Tin	U			0.0200	н	н	п	"	n
Titanium	0.0347			0.006	"	н	И	11	11
Vanadium	0.0086			0.005	"	n	II .	II .	11



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

07a (1805007-08)	Matrix: Water		Sampled: May-02-18 08:12		Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	0.874			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	н	н	IJ	n	0
Arsenic	U			0.0400	n	,,	н	15	15
Barium	0.146			0.003	n	"	IJ	II.	н
Beryllium	U			0.002	н	н	n	В	н
Boron	U			0.0500	п	H	n	"	"
Cadmium	U			0.002	п	н	n	0	n
Calcium	96.8			0.200	n	H	n	"	"
Chromium	0.0277			0.005	n	n	11	II.	"
Cobalt	0.0305			0.006	n	H	h	H	11
Copper	0.0470			0.0200	н	н	11	"	"
Iron	6.14			0.0800	п	н	n	n .	11
Lead	U			0.0300	п	n .	н	В	В
Lithium	U			0.0250	п	n	IJ	н	и
Magnesium hi	40.7			0.200	н	N	h	!!	May-10-18
Manganese	2.28			0.008	п	н	n	n	May-10-18
Molybdenum	U			0.0120	п	N	li li	"	11
Nickel	0.0341			0.0120	п	H	19	В	н
Potassium	2.16			0.800	п	п	и	"	May-10-18
Selenium	U			0.0500	п	н	H	"	May-10-18
Silver	U			0.0100	н	н	1)	n	11
Sodium	5.25			0.400	"	n .	"	11	"
Strontium	0.175			0.003	n	n	11	H	п
Thallium	U			0.0600	n	n	h	II .	"
Tin	U			0.0200	п	Ħ	n	"	"
Titanium	0.0339			0.006	n	н	19	В	11
Vanadium	0.0063			0.005	"	n .	IJ	II	11
Zinc	U			0.0300	п	n	И	н	н



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Water Division, WECA Region 5ProjectCentral Sands77 West Jackson BoulevardProject Number:CB022018Chicago IL, 60604Project Manager:Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D7b (1805007-09)	Matrix: Water	Samp	oled: May	-02-18 08:19	Rece	ived: May-04	I-18 10:00		
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	7.51			0.200	mg/L	l	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	н	n	0	n
Arsenic	U			0.0400	"	"	n	"	11
Barium	0.420			0.003	"	"	II .	"	11
Beryllium	U			0.002	н	H	н	H	11
Boron	U			0.0500	п	н	n	"	"
Cadmium	U			0.002	п	н	и	D	n
Calcium	106			0.200	n .	н	В	Ŋ	11
Chromium	0.280			0.005	п	н	В	И	н
Cobalt	0.0398			0.006	н	н	р	В	II .
Copper	0.150			0.0200	"	H	n	"	"
Iron	41.1			0.0800	п	н	п	9	11
Lead	U			0.0300	"	n .	н	В	н
Lithium	U			0.0250	n	n	ij	н	11
Magnesium	28.6			0.200	n	,,	п	ıı	May-10-18
Manganese	6.69			0.008	п	н	п	D	May-10-18
Molybdenum	0.0247			0.0120	n	"	и	"	"
Nickel	0.0705			0.0120	n	n n	н	В	п
Potassium	20.5			0.800	"	n	р	"	May-10-18
Selenium	U			0.0500	n	H	и	"	May-10-18
Silver	U			0.0100	п	н	и	n	n
Sodium	6.90			0.400	"	"	11		"
Strontium	0.612			0.003	n	n	И	В	11
Thallium	U			0.0600	n	"	н	"	"
Tin	U			0.0200	n	n	н	II.	n
Titanium	0.0554			0.006	n	H	и	19	11
Vanadium	0.0233			0.005	n	n	n n	II .	11
Zinc	0.107			0.0300	n	n	н	В	п



Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605 Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified)

Wetals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D8a (1805007-10) Analyte	Matrix: Water	Samp	Sampled: May-02-18 08:55		Received: May-04-18 10:00				
	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.11	•••••		0.200	mg/L	l	B18E017	May-09-18	May-10-18
Antimony	\mathbf{U}			0.0200	п	II .	"	0	0
Arsenic	U			0.0400	n	N.	n	"	11
Barium	0.262			0.003	"	II .	"	"	11
Beryllium	U			0.002	n	n .	"	II.	n .
Boron	0.0566			0.0500	п	N	"	"	"
Cadmium	U			0.002	п	H	"	n	0
Calcium	171			0.200	"	H	в		
Chromium	0.131			0.005	n	n	U	II .	n
Cobalt	0.0129			0.006	н	Ħ	h	H	n
Copper	0.0874			0.0200	н	н	11	"	n
Iron	22.3			0.0800	п	н	n	n .	11
Lead	U			0.0300	п	H	B	н	В
Lithium	U			0.0250	п	n	IJ	H.	п
Magnesium hi	78.6			0.200	н	N	11	!!	May-10-18
Manganese	3.24			0.008	п	н	n	n	May-10-18
Molybdenum	0.0153			0.0120	п	N	"	"	"
Nickel	0.0436			0.0120	п	H	B	н	н
Potassium	9.38			0.800	п	н	n	"	May-10-18
Selenium	U			0.0500	п	n	11	"	May-10-18
Silver	\mathbf{U}			0.0100	п	n	11	n	n
Sodium	12.2			0.400	"	n n	"	"	11
Strontium	0.617			0.003	n	n	n	H	11
Thallium	U			0.0600	n	n	h	"	"
Tin	U			0.0200	п	Ħ	n	"	n.
Titanium	0.0275			0.006	"	H	н	11	11
Vanadium	0.0085			0.005	"	n .	U	H	"
Zinc	U			0.0300	n	n	N	н	н



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Water Division, WECA Region 5ProjectCentral Sands77 West Jackson BoulevardProject Number:CB022018Chicago IL, 60604Project Manager:Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D8b (1805007-11)	Matrix: Water	Samp	oled: May	-02-18 09:11	Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.35			0.200	mg/L	l	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	n	н	IJ	n	1)
Arsenic	U			0.0400	"	H	19	19	"
Barium	0.370			0.003	n	n	IJ	H	11
Beryllium	U			0.002	n	H	п	II.	n.
Boron	0.0954			0.0500	н	Ħ	11	"	"
Cadmium	U			0.002	п	н	IJ	n	n
Calcium	109			0.200	н	н	н	15	15
Chromium	0.342			0.005	п	n	И	н	n
Cobalt	0.0417			0.006	н	н	'n	и	"
Copper	0.209			0.0200	н	н	n	n	n .
Iron	44.1			0.0800	н	н	n	n	n
Lead	U			0.0300	п	H	н	н	В
Lithium	U			0.0250	п	п	И	н	и
Magnesium hi	53.7			0.200	n	Ħ	17	17	May-10-18
Manganese	9.73			0.008	п	н	17	n	May-10-18
Molybdenum	0.0231			0.0120	н	Ħ	ıı	n	
Nickel	0.0950			0.0120	п	ii	н	н	В
Potassium	20.6			0.800	n	n	В	11	May-10-18
Selenium	U			0.0500	н	н	n	II .	May-10-18
Silver	U			0.0100	н	Й	ıı	n	D
Sodium	17.0			0.400	"	"	n	11	II .
Strontium	0.262			0.003	п	n	11	н	IF
Thallium	U			0.0600	п	n	В	"	"
Tin	U			0.0200	н	н	n	"	n
Titanium	0.0405			0.006	н	н	н	11	15
Vanadium	0.0231			0.005	"	n	n	II .	II .
Zinc	0.0760			0.0300	п	п	11	н	В



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Water Division, WECA Region 5 Project: Central Sands
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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D9a (1805007-12) Analyte	Matrix: Water		Sampled: May-02-18 09:45		Received: May-04-18 10:00				
	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.68			0.200	mg/L	l	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	п	н	n	n	n
Arsenic	U			0.0400	n	,,	н	11	15
Barium	0.180			0.003	"	"	IJ	II.	н
Beryllium	U			0.002	н	н	n	н	н
Boron	0.0521			0.0500	п	H	n	"	"
Cadmium	U			0.002	н	н	n	0	n
Calcium	133			0.200	n	H	n	"	"
Chromium	0.128			0.005	n	ii	IJ	II.	11
Cobalt	U			0.006	11	H	h	ii	11
Copper	0.0569			0.0200	н	н	11	n.	"
Iron	19.3			0.0800	п	н	n	n .	11
Lead	U			0.0300	н	H	19	н	н
Lithium	U			0.0250	п	n	IJ	H.	и
Magnesium hi	63.4			0.200	п	H	n	"	May-10-18
Manganese	1.03			0.008	п	н	и	n	May-10-18
Molybdenum	0.0138			0.0120	н	N	li li	"	11
Nickel	0.0313			0.0120	н	II .	н	н	н
Potassium	6.40			0.800	п	п	и	"	May-10-18
Selenium	U			0.0500	н	H	n	"	May-10-18
Silver	U			0.0100	н	н	13	n	n
Sodium	7.09			0.400	n	"	"	11	11
Strontium	0.743			0.003	n	n	11	H	п
Thallium	U			0.0600	н	11	р	"	"
Tin	U			0.0200	н	Ħ	n	11	11
Titanium	0.0202			0.006	н	n	н	11	В
Vanadium	0.006			0.005	п	II .	IJ	н	И
Zinc	U			0.0300	n	п	11	н	н



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D9b (1805007-13)	Matrix: Water	Samp	oled: May	-02-18 09:54	Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.58			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	н	IJ	n	D
Arsenic	U			0.0400	н	H	19	19	
Barium	0.398			0.003	"	n	IJ	H	n
Beryllium	U			0.002	п	H	п	II.	11
Boron	U			0.0500	п	Ħ	11	"	n.
Cadmium	U			0.002	n	И	IJ	n	n
Calcium	36.8			0.200	"	н	н	15	15
Chromium	0.230			0.005	n	n	И	н	п
Cobalt	0.0233			0.006	"	н	'n	и	II .
Copper	0.124			0.0200	п	н	n	n	n
Iron	31.7			0.0800	n	Й	n	n	n
Lead	U			0.0300	n n	II.	н	н	В
Lithium	U			0.0250	9	н	И	И	н
Magnesium	16.7			0.200	п	ři	В	11	May-10-18
Manganese	2.13			0.008	п	н	ıı	n	May-10-18
Molybdenum	0.0188			0.0120	n	n	ıı	11	11
Nickel	0.0486			0.0120	n	ij	н	н	й
Potassium	3.33			0.800	п	Ħ	В	11	May-10-18
Selenium	U			0.0500	п	Й	n	II .	May-10-18
Silver	U			0.0100	п	Й	ıı	n	n
Sodium	2.81			0.400	"	"	n	11	11
Strontium	0.139			0.003	n	n	И	н	н
Thallium	U			0.0600	n	n .	В	"	n.
Tin	U			0.0200	В	И	n	"	n
Titanium	0.0341			0.006	"	n	н	11	16
Vanadium	0.0277			0.005	"	n	n	II .	н
Zinc	0.0434			0.0300	n	п	11	н	н



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D10a (1805007-14)	Matrix: Wat	ter San	pled: Ma	y-02-18 10:29	Rec	eived: May-0	04-18 10:00		
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.54			0.200	mg/L	l	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	n	"	II	1)	n
Arsenic	U			0.0400	"	"	n	11	15
Barium	0.194			0.003	"	"	II .	II .	11
Beryllium	U			0.002	n	"	ļi	н	"
Boron	U			0.0500	"	n	11	"	"
Cadmium	U			0.002	н	н	n	0	D.
Calcium	130			0.200	н	н	Ŋ	19	
Chromium	0.265			0.005	n	н	H	IJ	11
Cobalt	0.0107			0.006	n	н	Ŋ	ii.	n
Copper	0.0951			0.0200	п	н	n	"	n.
Iron	36.3			0.0800	п	н	II.	IJ	11
Lead	U			0.0300	n	н	н	В	B
Lithium	U			0.0250	n	В	И	н	и
Magnesium hi	66.3			0.200	11	п	17	"	May-10-18
Manganese	1.97			0.008	п	н	H	n	May-10-18
Molybdenum	0.0353			0.0120	n	н	IJ	IJ	n .
Nickel	0.0592			0.0120	n	н	H	В	B
Potassium	5.91			0.800	н	н	И	II .	May-10-18
Selenium	U			0.0500	п	н	H	II .	May-10-18
Silver	U			0.0100	п	п	и	Ð	0
Sodium	3.59			0.400	"	"	n	II .	"
Strontium	0.214			0.003	n	n	н	В	п
Thallium	U			0.0600	n	n n	n	"	n .
Tin	U			0.0200	п	п	n	n,	n .
Titanium	0.0270			0.006	"	n n	n	15	11
Vanadium	0.0071			0.005	"	"	II .	11	11
Zinc	U			0.0300	n	n	н	В	н



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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D10a Dup (1805007-15)	Matri	x: Water	Sampled	Sampled: May-02-18 10:29			Received: May-04-18 10:00			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	
Aluminum	1.81			0.200	mg/L	1	B18E017	May-09-18	May-10-18	
Antimony	U			0.0200	н	н	IJ	n	0	
Arsenic	U			0.0400	н	н	19	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
Barium	0.156			0.003	п	н	IJ	H	11	
Beryllium	U			0.002	п	н	n	H	11	
Boron	U			0.0500	н	н	IJ	"	"	
Cadmium	U			0.002	н	н	11	n	n	
Calcium	105			0.200	п	н	н	Ŋ	11	
Chromium	0.187			0.005	п	н	IJ	И	п	
Cobalt	0.0083			0.006	п	В	11	и	n	
Copper	0.0684			0.0200	п	н	IJ	n.	n	
Iron	24.8			0.0800	п	п	IJ	n	n	
Lead	U			0.0300	п	п	H	н	В	
Lithium	U			0.0250	n	n	IJ	II .	п	
Magnesium hi	51.3			0.200	п	В	n)I	May-10-18	
Manganese	1.56			0.008	п	н	ıı	n	May-10-18	
Molybdenum	0.0269			0.0120	п	н	····	"	"	
Nickel	0.0412			0.0120	n	п	H	II .	В	
Potassium	5.38			0.800	п	н	n	II .	May-10-18	
Selenium	U			0.0500	п	н	n	"	May-10-18	
Silver	U			0.0100	п	н	U	n	n	
Sodium	3.42			0.400	n	n n	"	II	"	
Strontium	0.207			0.003	n	n	ii .	н	В	
Thallium	U			0.0600	п	n	n	"	"	
Tin	U			0.0200	н	п	11	n .	n	
Titanium	0.0220			0.006	n	п	H	15	16	
Vanadium	0.0054			0.005	п	n	II .	И	н	
Zinc	U			0.0300	n	n	11	H	11	



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Water Division, WECA Region 5 Project: Central Sands
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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D10b (1805007-16)	Matrix: Water	· San	Sampled: May-02-18 10:41			eived: May-(
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.63			0.200	mg/L	l	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	n	н	IJ	n	n
Arsenic	U			0.0400	"	н	н	Ŋ	16
Barium	0.297			0.003	n	"	IJ	н	н
Beryllium	U			0.002	п	н	ij.	н	п
Boron	U			0.0500	n .	!!	1)	W.	"
Cadmium	U			0.002	п	н	11	n	n
Calcium	49.8			0.200	n .	H	ij	15	15
Chromium	0.218			0.005	п	н	n	н	н
Cobalt	0.0152			0.006	н	н	h	В	В
Copper	0.104			0.0200	н	н	n	n	n
Iron	29.1			0.0800	н	н	n	В	В
Lead	U			0.0300	п	н	B	В	В
Lithium	U			0.0250	п	н	IJ	В	В
Magnesium	20.8			0.200	н	н	ij	"	May-10-18
Manganese	5.00			0.008	п	н	ıı	B	May-10-18
Molybdenum	0.0225			0.0120	н	н	n	В	В
Nickel	0.0531			0.0120	п	н	B	В	В
Potassium	3.39			0.800	n	н	р	II .	May-10-18
Selenium	U			0.0500	н	н	n	II .	May-10-18
Silver	U			0.0100	н	н	n	D	D
Sodium	3.63			0.400	"	"	IJ	В	н
Strontium	0.210			0.003	n	п	H	н	п
Thallium	U			0.0600	n	н	n	II .	n n
Tin	U			0.0200	н	н	n	n	п
Titanium	0.0309			0.006	n	н	И	15	В
Vanadium	0.0151			0.005	"	n	ii .	н	п
Zinc	0.0494			0.0300	n	n	"	и	п



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D10b Dup (1805007-17)	Matrix: Water		Sampled: May-02-18 10:41			Received: I			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.82			0.200	mg/L	l	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	n	"	n	n
Arsenic	U			0.0400	"	"		11	11
Barium	0.330			0.003	"	"	"	II .	п
Beryllium	U			0.002	n	n	11	"	п
Boron	U			0.0500	n	"	"	"	"
Cadmium	U			0.002	"	н	"	n	n
Calcium	51.0			0.200	"	"	p	19	н
Chromium	0.201			0.005	n	п	U	H.	н
Cobalt	0.0166			0.006		n	11	н	и
Copper	0.105			0.0200	н	н	n	H	11
Iron	29.7			0.0800	п	н	n	11	п
Lead	U			0.0300	"	"	H	н	н
Lithium	U			0.0250	n	n	IJ	н	н
Magnesium	21.7			0.200	"	Ħ	13	W.	May-10-18
Manganese	6.74			0.008	п	н	ij	n	May-10-18
Molybdenum	0.0174			0.0120	п	n	ij	В	В
Nickel	0.0529			0.0120	н	"	Н	В	В
Potassium	3.28			0.800	н	n	В	II .	May-10-18
Selenium	U			0.0500	н	н	IJ	II .	May-10-18
Silver	U			0.0100	н	н	IJ	Ð	n
Sodium	3.59			0.400	"	"	IJ	н	н
Strontium	0.213			0.003	n	n	11	В	В
Thallium	U			0.0600	н	11	И	II .	II .
Tin	U			0.0200	н	В	IJ	II .	n .
Titanium	0.0359			0.006	н	n n	н	и	В
Vanadium	0.0226			0.005	n	n n	II .	И	н
Zinc	0.0550			0.0300	n	n	ii.	II .	п



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Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

Analyte Aluminum Antimony Arsenic Barium	Result 1.83 U	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution			
Antimony Arsenic	U				CIME	Ditution	Batch	Prepared	Analyzed
Arsenic				0.200	mg/L	l	B18E017	May-09-18	May-10-18
	\mathbf{U}			0.0200	п	н	11	D	n
Barium				0.0400	"	н	в	19	
	0.357			0.003	"	"	IJ	II .	11
Beryllium	U			0.002	n	н	11	II.	n .
Boron	U			0.0500	н	н	ii	"	"
Cadmium	U			0.002	n	н	IJ	n	0
Calcium	87.4			0.200	п	н	н	IJ	15
Chromium	0.0166			0.005	n	н	И	IJ	n
Cobalt	U			0.006	н	н	н	li .	n.
Copper	0.0388			0.0200	11	н	"	"	"
Iron	3.33			0.0800	п	н	IJ	IJ	II .
Lead	U			0.0300	"	н	В	н	н
Lithium	U			0.0250	n	п	II.	H	II.
Magnesium hi	43.5			0.200	п	н	19	"	May-10-18
Manganese	2.58			0.008	н	н	IJ	n	May-10-18
Molybdenum	U			0.0120	п	п	11	"	"
Nickel	0.0120			0.0120	n	"	н	н	н
Potassium	3.35			0.800	"	н	9	"	May-10-18
Selenium	U			0.0500	п	н	n n	"	May-10-18
Silver	U			0.0100	п	н	ıı	n	n
Sodium	7.49			0.400	"	"		"	"
Strontium	0.373			0.003	n	n	ii	В	II.
Thallium	U			0.0600	"	"	11	"	"
Tin	U			0.0200	"	н	n	"	"
Titanium	0.0124			0.006	"	н	n	10	11
Vanadium	U			0.005	n n	n n	IJ	II .	11
Zinc	U			0.0300	n	п	li .	В	В



Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605 Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5 77 West Jackson Boulevard Chicago IL, 60604 Project Number: CB022018
Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

D11b (1805007-19)			Sampled: May-02-18 11:42		Rec	eived: May-0			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.36			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	н	н	n	n	n
Arsenic	U			0.0400	"	n .	n	11	11
Barium	0.193			0.003	"	"	"	"	"
Beryllium	U			0.002	n	n	ii.	H	n .
Boron	0.0654			0.0500	н	II II	"	"	"
Cadmium	U			0.002	n .	H	11	D	0
Calcium	45.5			0.200	H	!!	p	19	
Chromium	0.0224			0.005	n	n	II.		11
Cobalt	U			0.006	11	H	h	ii.	ıı
Copper	0.0278			0.0200	н	н	n	ıı	n
Iron	4.03			0.0800	н	н	n	IJ	11
Lead	U			0.0300	"	н	B	ij	н
Lithium	U			0.0250	n	n	II.	ii .	п
Magnesium	16.7			0.200	"	11	17	"	May-10-18
Manganese	2.27			0.008	п	н	n	0	May-10-18
Molybdenum	U			0.0120	"	!!	!)	"	"
Nickel	U			0.0120	н	n	H	15	#
Potassium	15.9			0.800	n	n	п	II	May-10-18
Selenium	U			0.0500	н	н	n.	"	May-10-18
Silver	U			0.0100	п	н	n	D	11
Sodium	9.29			0.400	n .	11	11	"	"
Strontium	0.123			0.003	n	n	H	II.	#
Thallium	U			0.0600	Ħ	n	l)	"	"
Tin	U			0.0200	н	н	n	II .	n
Titanium	0.0207			0.006	н	н	н	и	н
Vanadium	U			0.005	п	н	n .	II .	н
Zinc	U			0.0300	n	н	Ħ	н	н



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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E1a (1805007-20)	-			-02-18 12:41	Rece	ived: May-04			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.03			0.200	mg/L	1	B18E017	May-09-18	May-10-18
Antimony	U			0.0200	"	н	ıı	n	n
Arsenic	U			0.0400	"	"	ii	11	11
Barium	0.173			0.003	"	"	ii	II .	11
Beryllium	U			0.002	n	н	"	"	n .
Boron	0.0509			0.0500	n .	N	"	"	"
Cadmium	U			0.002	п	н	11	n	n
Calcium	110			0.200	п	H	н	l)	
Chromium	0.0728			0.005	п	n	U	II.	n
Cobalt	0.0104			0.006	н	Ħ	h	it.	n
Copper	0.0754			0.0200	н	Ħ	ij	n.	n.
Iron	11.6			0.0800	п	n	n	n	0
Lead	U			0.0300	п	H .	H	н	11
Lithium	U			0.0250	n	Ħ	n	И	п
Magnesium hi	52.3			0.200	н	H	i)	"	May-10-18
Manganese	4.35			0.008	п	н	n	n	May-10-18
Molybdenum	U			0.0120	п	Ħ	ij	11	1)
Nickel	0.0257			0.0120	n	ij	ij	В	В
Potassium	2.28			0.800	n	Ħ	н	11	May-10-18
Selenium	U			0.0500	н	н	IJ	II .	May-10-18
Silver	U			0.0100	н	н	и	n	n
Sodium	4.58			0.400	"	"	IJ	н	"
Strontium	0.307			0.003	n	n	И	н	н
Thallium	U			0.0600	n	н	p	"	"
Tin	U			0.0200	н	И	n	W.	n
Titanium	0.0270			0.006	"	и	н	н	н
Vanadium	U			0.005	"	n	ıı	И	н
Zinc	U			0.0300	n	n	II .	H	II.



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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E1b (1805007-21)	Matrix: Water	Samp	oled: May	-02-18 12:58	Rece	ived: May-04	l-18 10:00		
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.06			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	n	H .	u	0	n
Arsenic	U			0.0400	"	"	n	"	11
Barium	0.611			0.003	"	"	"	"	п
Beryllium	U			0.002	"	"	n	II.	п
Boron	U			0.0500	n	II .	"	"	"
Cadmium	U			0.002	n .	II .	n	n	n
Calcium	73.5			0.200	"	"	н	"	11
Chromium	0.199			0.005	n	n	H.	II .	п
Cobalt	0.0698			0.006	11	H	h	ii	и
Copper	0.112			0.0200	н	н	н	"	п
Iron	30.7			0.0800	"	н	n	n	п
Lead	U			0.0300	"	II .	H	11	н
Lithium	U			0.0250	п	n	И	H.	н
Magnesium	21.2			0.200	н	H	H	!!	"
Manganese	5.08			0.008	н	н	н	n	n
Molybdenum	0.0133			0.0120	п	H	n	"	11
Nickel	0.0566			0.0120	п	H	н	н	н
Potassium	8.86			0.800	11	н	и	"	"
Selenium	U			0.0500	н	H	н	11	11
Silver	U			0.0100	н	н	н	n	n
Sodium	4.94			0.400	"	"	И	11	н
Strontium	0.480			0.003	n	n	И	н	н
Thallium	U			0.0600	11	H	В	"	"
Tin	U			0.0200	п	н	И	"	n
Titanium	0.0276	K		0.006	"	н	н	11	May-21-18
Vanadium	0.0216			0.005	"	n	п	II .	May-10-18
Zinc	U			0.0300	n	n	н	H	н



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Water Division, WECA Region 5Project: Central Sands77 West Jackson BoulevardProject Number: CB022018Chicago IL, 60604Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E2a (1805007-22)	Matrix: Water		Sampled: May-02-18 13:28		Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.09			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	н	н	11	U	n
Arsenic	U			0.0400	п	H	н	19	11
Barium	0.101			0.003	n	н	IJ	II	н
Beryllium	U			0.002	п	н	и	IJ	n .
Boron	U			0.0500	н	н	n	11	"
Cadmium	U			0.002	п	н	n	0	n
Calcium	38.8			0.200	n	n .	n	"	15
Chromium	0.0397			0.005	п	п	IJ	II	n .
Cobalt	0.0174			0.006	n	!!	h	!!	"
Copper	0.0546			0.0200	н	н	n	"	"
Iron	8.17			0.0800	п	н	n	n	11
Lead	U			0.0300	п	n .	19	8	В
Lithium	U			0.0250	п	n	IJ	ij	п
Magnesium	19.9			0.200	п	H	n	"	"
Manganese	2.46			0.008	п	н	и	n	D.
Molybdenum	U			0.0120	п	!!	li li	"	"
Nickel	0.0312			0.0120	п	11	н	8	11
Potassium	1.72			0.800	п	н	и	"	11
Selenium	U			0.0500	п	н	H	"	"
Silver	U			0.0100	п	п	13	0	1)
Sodium	23.3			0.400	"	"	"	"	11
Strontium	0.0553			0.003	n	n	11	н	II.
Thallium	U			0.0600	"	n	h	"	"
Tin	U			0.0200	"	н	п	"	n
Titanium	0.0272	K		0.006	n	н	19	19	May-21-18
Vanadium	0.0061			0.005	"	"	IJ	II.	May-10-18
Zinc	U			0.0300	п	n	11	И	н



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Water Division, WECA Region 5 Project: Central Sands
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Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

Antimony U 0,0000	E2b (1805007-23)	Matrix: Water	Samj	pled: May-	-02-18 13:37	Received: May-04-18 10:00				
Antimony U 0,0000 ' 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Analyte	Result		MDL		Units	Dilution	Batch	Prepared	Analyzed
Alsenice U	Aluminum	4.92			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Barium	Antimony	U			0.0200	н	н	н	Ð	n
Servilian	Arsenic	U			0.0400	и	!!	Ŋ	19	"
Boron U 0.0500	Barium	0.371			0.003	"	H .	H.	"	11
Cadmium	Beryllium	U			0.002	11	H	и	B.	11
Calcium 29.9 0.200 "	Boron	U			0.0500	н	H	н	"	"
Chromium O.179 O.005 O.006 O.006 O.006 O.0006 O.006 O.0006 O.	Cadmium	U			0.002	н	н	н	D	0
Cobalt 0.0302 0.006 "	Calcium	29.9			0.200	п	н	н	19	15
Copper 0.126 0.0200 "	Chromium	0.179			0.005	п	n	И	ij	n.
Part	Cobalt	0.0302			0.006	п	н	И	ıı	n
Iron 29.9 0.0800 " <t< td=""><td>Copper</td><td>0.126</td><td></td><td></td><td>0.0200</td><td>н</td><td>н</td><td>н</td><td>11</td><td>n</td></t<>	Copper	0.126			0.0200	н	н	н	11	n
Lithium U 0.0250 " " " " " " " " " " " " " " " " " " "	Iron	29.9			0.0800	п	н	и	IJ	n
Magnesium 12.1 0.200 "	Lead	U			0.0300	п	н	В	В	В
Manganese 3.93 0.008 "	Lithium	U			0.0250	п	н	В	и	и
Molybdenum 0.0167 0.0120 "	Magnesium	12.1			0.200	В	H	н	11	"
Nickel 0.0641 0.0120 "	Manganese	3.93			0.008	п	н	н	D	n
Potassium	Molybdenum	0.0167			0.0120	п	н	и	IJ	n
Selenium	Nickel	0.0641			0.0120	п	н	В	В	В
Silver U 0.0100 " <th< td=""><td>Potassium</td><td>4.02</td><td></td><td></td><td>0.800</td><td>п</td><td>п</td><td>н</td><td>II</td><td>"</td></th<>	Potassium	4.02			0.800	п	п	н	II	"
Sodium 3.00 0.400 " <	Selenium	U			0.0500	н	н	н	ij	ïi .
Strontium 0.140 0.003 " May-21-18 Vanadium 0.0238 0.005 " " " " " May-10-18	Silver	U			0.0100	н	н	и	Ü	D
Thallium U 0.0600 " May-21-18 Vanadium 0.0238 0.005 " " " " " May-10-18	Sodium	3.00			0.400	"	n	II .	II .	"
Tin U 0.0200 " " " " " " " " May-21-18 Vanadium 0.0238 0.005 " " " " " May-10-18	Strontium	0.140			0.003	n	п	И	И	В
Titanium 0.0296 K 0.006 " " " " May-21-18 Vanadium 0.0238 0.005 " " " " May-10-18	Thallium	U			0.0600	n	н	В	II .	"
Transition 0.0250 K 0.000 May-21-18 Vanadium 0.0238 0.005 " " " " May-10-18	Tin	U			0.0200	п	н	И	II .	n
vanadrum 0.0200 0.000 may-10-10	Titanium	0.0296	K		0.006	"	н	н	15	May-21-18
Zinc 0.0363 0.0300 " " " " "	Vanadium	0.0238			0.005	"	н	п	II .	May-10-18
	Zinc	0.0363			0.0300	n	n	н	"	"



Chicago Regional Laboratory

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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E2a Dup (1805007-24)			Sampled: May-02-18 13:28			Received: May-04-18 10:00			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.51			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	п	н	11	n	n
Arsenic	U			0.0400	"	"	H	19	#
Barium	0.164			0.003	"	"	"	"	н
Beryllium	U			0.002	п	n	и	II.	п
Boron	U			0.0500	п	п	н	"	"
Cadmium	U			0.002	п	н	н	n	n
Calcium	87.4			0.200	н	"	н	19	15
Chromium	0.0509			0.005	п	n	В	н	и
Cobalt	0.0223			0.006	н	н	н	и	п
Copper	0.0793			0.0200	н	n	n	n.	n n
Iron	10.5			0.0800	н	п	п	n	н
Lead	U			0.0300	п	n	н	н	н
Lithium	U			0.0250	n	н	n .	II .	п
Magnesium hi	49.5			0.200	n	п	11	"	"
Manganese	3.73			0.008	н	п	n	n	n
Molybdenum	U			0.0120	"	н	и	"	n
Nickel	0.0447			0.0120	n	н	н	II .	н
Potassium	1.92			0.800	"	n	9	"	n .
Selenium	U			0.0500	n	н	n	"	"
Silver	U			0.0100	n	н	и	n	n
Sodium	24.0			0.400	"	"		"	
Strontium	0.0796			0.003	n	n	н	н	п
Thallium	U			0.0600	"	n	9	"	"
Tin	U			0.0200	п	н	n	"	n
Titanium	0.0282	K		0.006	n	n	H	II.	May-21-18
Vanadium	0.0075			0.005	n	"	n .	II .	May-10-18
Zinc	U			0.0300	n	n	н	н	н



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77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E2b Dup (1805007-25)	Matrix: Water		Sampled: May-02-18 13:37			Received: M			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.44	•		0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	н	п	n	n	"
Arsenic	U			0.0400	н	n	н	15	16
Barium	0.480			0.003	"	n	II .	н	"
Beryllium	U			0.002	п	н	н	"	"
Boron	U			0.0500	н	н	11	"	"
Cadmium	U			0.002	н	n	11	n	"
Calcium	31.9			0.200	"	"		11	"
Chromium	0.204			0.005	n	n	"	ij.	"
Cobalt	0.0355			0.006	"	"	11	H	"
Copper	0.141			0.0200	"	н	"	"	"
Iron	31.1			0.0800	п	n	II.	9	"
Lead	U			0.0300	n	"	ii	н	"
Lithium	U			0.0250	n	п	U	H	п
Magnesium	13.4			0.200	"	"	13	II	"
Manganese	4.86			0.008	п	н	n	n	n
Molybdenum	0.0129			0.0120	"	н	"	n	"
Nickel	0.0694			0.0120	n	"	н	н	"
Potassium	4.36			0.800	n	n	п	W.	"
Selenium	U			0.0500	п	п	n	"	"
Silver	U			0.0100	п	н	11	n	n
Sodium	3.26			0.400	"	"	"	N N	"
Strontium	0.148			0.003	n	n	ii	н	п
Thallium	U			0.0600	n	11	ņ	W.	"
Tin	U			0.0200	п	п	n	W	"
Titanium	0.0282	K		0.006	n	n	9	H	May-21-18
Vanadium	0.0241			0.005	n	II.	U	H	May-10-18
Zinc	0.0449			0.0300	n	п	H	н	и



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Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E3a (1805007-26)	Matrix: Water	Samp	oled: May-	02-18 14:03	Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.08			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	п	II .	n	0	n
Arsenic	U			0.0400	"	"	H	11	11
Barium	0.228			0.003	"	"	"	"	п
Beryllium	U			0.002	n	"	п	II.	п
Boron	U			0.0500	"	"	n	"	"
Cadmium	U			0.002	н	н	H	D	n
Calcium	118			0.200	"	H	Ŋ	19	н
Chromium	0.123			0.005	n	n	H.	II .	п
Cobalt	0.0228			0.006	H	Ħ	и	H	и
Copper	0.0724			0.0200	н	н	н	II.	11
Iron	24.8			0.0800	н	н	н	IJ	п
Lead	U			0.0300	п	H	н	В	н
Lithium	U			0.0250	п	n	И	н	н
Magnesium hi	68.6			0.200	н	H	H	!!	11
Manganese	2.01			0.008	п	н	н	n	n
Molybdenum	0.0152			0.0120	n	H	n n	Ŋ	11
Nickel	0.0543			0.0120	п	H	н	В	н
Potassium	2.48			0.800	п	н	и	"	"
Selenium	U			0.0500	п	н	n	"	n
Silver	U			0.0100	н	н	н	n	n
Sodium	3.11			0.400	"	"	n.	11	н
Strontium	0.101			0.003	n	n	И	н	В
Thallium	U			0.0600	n	H	В	II	n
Tin	U			0.0200	н	н	н	n .	n.
Titanium	0.0227	K		0.006	н	н	и	15	May-21-18
Vanadium	0.0076			0.005	n	n	И	II .	May-10-18
Zinc	U			0.0300	n	n	н	н	п



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

Antimony U 0,000	E3b (1805007-27)	Matrix: Water	Samj	oled: May-	-02-18 14:09	Received: May-04-18 10:00				
Antimony U 0,0000 " " 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Analyte	Result		MDL		Units	Dilution	Batch	Prepared	Analyzed
Alsenice U	Aluminum	2.43			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Barium	Antimony	U			0.0200	н	н	н	Ð	n
Bervillim	Arsenic	U			0.0400	и	H	Ŋ	19	"
Boron 0.0519 0.0500	Barium	0.215			0.003	"	n	H	II .	11
Cadmium	Beryllium	U			0.002	11	H	и	B.	11
Calcium 81.6 0.200 "	Boron	0.0519			0.0500	н	н	н	"	"
Chromium 0.240 0.0326 0.0006 0.0006 0.0006 0.0007 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.0000 0.0000 0.0000 0.0000 0.0000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.00000 0.000000	Cadmium	U			0.002	н	н	н	0	0
Cobalt 0.0326 0.006 "	Calcium	81.6			0.200	п	H	н	19	15
Copper 0.0921 0.0200 "	Chromium	0.240			0.005	п	n	И	ij	n.
Street S	Cobalt	0.0326			0.006	п	H	И	ıı	n
Iron 31.6 0.0800 " <t< td=""><td>Copper</td><td>0.0921</td><td></td><td></td><td>0.0200</td><td>н</td><td>н</td><td>н</td><td>11</td><td>n</td></t<>	Copper	0.0921			0.0200	н	н	н	11	n
Lithium U 0.0250 " " " " " " " " " " " " " " " " " " "	Iron	31.6			0.0800	п	ii	и	IJ	n
Magnesium hi	Lead	U			0.0300	п	H	В	В	В
Manganese Mang	Lithium	U			0.0250	п	п	В	и	и
Molybdenum 0.0246 0.0120 "	Magnesium hi	45.2			0.200	В	H	н	11	"
Nickel 0.0513 0.0120 "	Manganese	2.68			0.008	п	н	н	D	n
Potassium 2.20 0.800 "	Molybdenum	0.0246			0.0120	п	H	и	IJ	n
Selenium U 0.0500 " <	Nickel	0.0513			0.0120	п	ii	В	В	В
Silver U 0.0100 " <th< td=""><td>Potassium</td><td>2.20</td><td></td><td></td><td>0.800</td><td>п</td><td>n</td><td>н</td><td>II</td><td>"</td></th<>	Potassium	2.20			0.800	п	n	н	II	"
Sodium 2.76 0.400 " <	Selenium	U			0.0500	н	n	н	II.	"
Strontium 0.108 0.003 " May-21-18 Vanadium 0.0076 0.005 " " " " " May-10-18	Silver	U			0.0100	н	н	н	D	D
Thallium U 0.0600 " May-21-18 Vanadium 0.0076 0.005 " " " " " May-10-18	Sodium	2.76			0.400	"	"	II .	II .	"
Tin U 0.0200 " " " " " " " " May-21-18 Vanadium 0.0076 0.005 " " " " " May-10-18	Strontium	0.108			0.003	n	n	И	И	В
Titanium 0.0274 K 0.006 " " " " May-21-18 Vanadium 0.0076 0.005 " " " " May-10-18	Thallium	U			0.0600	n	n	В	II .	"
Titanium 0.02/4 K 0.000 May-21-18 Vanadium 0.0076 0.005 " " " May-10-18	Tin	U			0.0200	п	н	И	II .	n
vanadum 0.0070 0.005 May-10-10	Titanium	0.0274	K		0.006	"	н	н	15	May-21-18
Zinc 0.0356 0.0300 " " " " "	Vanadium	0.0076			0.005	"	n	п	II .	May-10-18
	Zinc	0.0356			0.0300	n	n	н	"	"



Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605 Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E4a (1805007-28)	Matrix: Water	Samj	pled: May-02-18 14:37		Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.09			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	н	11	0	"
Arsenic	U			0.0400	n .	H	Ŋ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	"
Barium	0.251			0.003	n .	n	H.	H	11
Beryllium	U			0.002	"	H	и	H	11
Boron	0.0542			0.0500	11	II II	n	"	"
Cadmium	U			0.002	н	н	н	D	n
Calcium	161			0.200	n n	H	н	Ŋ	15
Chromium	0.293			0.005	n	n	И	и	n .
Cobalt	0.0148			0.006	n	H	И	н	n
Copper	0.121			0.0200	п	н	п	n	n n
Iron	45.7			0.0800	n	ii	и	n	n
Lead	U			0.0300	n	H	В	В	В
Lithium	U			0.0250	n	n	н	В	n .
Magnesium hi	76.9			0.200	п	H	В	II	"
Manganese	1.25			0.008	п	н	и	n	n
Molybdenum	0.0463			0.0120	n n	н	и	n	n
Nickel	0.0658			0.0120	"	n .	н	В	в
Potassium	4.36			0.800	n	н	В	II .	II .
Selenium	U			0.0500	п	н	п	II .	II .
Silver	U			0.0100	п	н	и	n	D
Sodium	5.46			0.400	"	"	n .	II .	"
Strontium	0.367			0.003	n	n	н	В	II.
Thallium	U			0.0600	n	"	В	II .	"
Tin	U			0.0200	н	н	п	n .	n .
Titanium	0.0346	K		0.006	"	n	н	15	May-21-18
Vanadium	0.0111			0.005	"	"	U	И	May-10-18
Zinc	0.0325			0.0300	n	n	н	II.	п



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E4b (1805007-29)	Matrix: Water	Samj	Sampled: May-02-18 14:43			Received: May-04-18 10:00			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	8.12			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	n n	II .	n	"	n
Arsenic	U			0.0400	и	H	Ŋ	19	
Barium	0.437			0.003	"	n	H.	"	11
Beryllium	U			0.002	n	"	п	"	"
Boron	U			0.0500	11	II II	n	"	"
Cadmium	U			0.002	н	н	н	0	0
Calcium	71.8			0.200	п	H	н	19	15
Chromium	0.306			0.005	п	n	И	ii .	n
Cobalt	0.0450			0.006	п	H	И	ıı	n
Copper	0.183			0.0200	н	н	н	11	n
Iron	49.3			0.0800	п	ii	и	IJ	n
Lead	U			0.0300	п	H	В	В	н
Lithium	U			0.0250	n	n	н	II.	п
Magnesium	27.7			0.200	н	H	В	11	"
Manganese	5.97			0.008	п	н	и	n	n
Molybdenum	0.0347			0.0120	н	н	и	IJ	11
Nickel	0.0864			0.0120	n	n .	н	В	н
Potassium	17.6			0.800	n	n	9	II .	"
Selenium	U			0.0500	п	n	n	"	"
Silver	U			0.0100	п	п	n	n	n
Sodium	5.12			0.400	"	"	11	"	"
Strontium	0.625			0.003	n	n	н	и	п
Thallium	U			0.0600	"	n .	9	"	"
Tin	U			0.0200	"	n	n	"	"
Titanium	0.0519	K		0.006	"	n .	9		May-21-18
Vanadium	0.0226			0.005	"	n n	II .	II .	May-10-18
Zinc	0.0601			0.0300	n	n	И	II	"



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E5a (1805007-30)	Matrix: Water		Sampled: May-02-18 15:08			Received: May-04-18 10:00			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.63			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	н	IJ	n	"
Arsenic	U			0.0400	и	!!	Ŋ	19	11
Barium	0.359			0.003	"	H .	n.	II.	"
Beryllium	U			0.002	n	"	ii	II.	"
Boron	U			0.0500	11	II II	ii	"	"
Cadmium	U			0.002	н	н	n	D	0
Calcium	141			0.200	п	н	и	19	11
Chromium	0.190			0.005	п	n	Ħ	II	и
Cobalt	0.0187			0.006	н	н	ıı	н	и
Copper	0.0658			0.0200	н	н	n	n	"
Iron	26.7			0.0800	п	н	й	n	п
Lead	U			0.0300	н	н	н	н	В
Lithium	U			0.0250	n	н	И	н	н
Magnesium hi	74.5			0.200	н	н	ij	11	"
Manganese	1.31			0.008	п	н	и	n	n
Molybdenum	0.0272			0.0120	н	н	IJ	11	"
Nickel	0.0412			0.0120	n	н	н	н	н
Potassium	16.0			0.800	n	н	и	II .	"
Selenium	U			0.0500	п	н	п	"	"
Silver	U			0.0100	п	н	n	n	n
Sodium	6.58			0.400	"	n .	n .	"	"
Strontium	0.705			0.003	n	n	н	н	п
Thallium	U			0.0600	"	"	ii ii	"	"
Tin	U			0.0200	п	н	n	II.	"
Titanium	0.0473	K		0.006	"	H	H	II.	May-21-18
Vanadium	0.0089			0.005	n	н	H	H	May-10-18
Zinc	U			0.0300	n	n	и	п	11



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Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E5b (1805007-31)	Matrix: Water	Samp	Sampled: May-02-18 15:13			Received: May-04-18 10:00			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	5.40			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	п	н	н	Ð	0
Arsenic	U			0.0400	n .	H	Ŋ	19	"
Barium	0.240			0.003	"	n	H.	"	"
Beryllium	U			0.002	n	"	п	"	"
Boron	U			0.0500	11	II II	n	"	"
Cadmium	U			0.002	н	н	н	0	0
Calcium	127			0.200	n n	H	н	19	11
Chromium	0.315			0.005	n	n	И	ii .	и
Cobalt	0.0256			0.006	n	H	И	ıı	ıı
Copper	0.123			0.0200	п	н	п	11	n
Iron	44.6			0.0800	n	ii	и	IJ	n
Lead	U			0.0300	n	H	В	В	и
Lithium	U			0.0250	n	n	н	II.	п
Magnesium hi	64.3			0.200	п	H	В	11	n
Manganese	2.77			0.008	п	н	и	n	n
Molybdenum	0.0396			0.0120	n	H	и	IJ	n
Nickel	0.0715			0.0120	n	ii	В	В	и
Potassium	19.1			0.800	n	н	В	IJ	n
Selenium	U			0.0500	п	н	п	II .	n
Silver	U			0.0100	п	н	и	n	n
Sodium	6.29			0.400	"	"	В	II .	ıı .
Strontium	0.218			0.003	n	n	И	И	н
Thallium	U			0.0600	n	"	В	"	"
Tin	U			0.0200	н	н	п	II .	n
Titanium	0.0468	K		0.006	"	n	н	15	May-21-18
Vanadium	0.0138			0.005	"	"	U	II .	May-10-18
Zinc	0.0499			0.0300	n	n	н	"	"



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Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E6a (1805007-32)	Matrix: Water	Samp	pled: May-02-18 15:38		Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.01			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	п	н	ii	n	n
Arsenic	U			0.0400	n	H	"	15	15
Barium	0.171			0.003	n	"	"	II .	11
Beryllium	U			0.002	н	н	n	H	н
Boron	U			0.0500	п	H	"	"	"
Cadmium	U			0.002	п	H	IJ	n	n
Calcium	74.7			0.200	n	"	n	11	11
Chromium	0.0819			0.005	n	"	IJ	"	11
Cobalt	0.0369			0.006	n	H	h	B	11
Copper	0.0607			0.0200	н	н	IJ	n.	n
Iron	15.1			0.0800	п	н	n	II.	11
Lead	U			0.0300	п	H .	n	н	11
Lithium	U			0.0250	n	n	IJ	И	п
Magnesium hi	42.0			0.200	н	H	n	li	IJ
Manganese	1.64			0.008	п	н	ıı	n	n
Molybdenum	U			0.0120	н	Ħ	ıı	11	1)
Nickel	0.0340			0.0120	н	Ħ	н	н	н
Potassium	1.72			0.800	п	Ħ	р	II .	"
Selenium	U			0.0500	н	н	н	II .	"
Silver	U			0.0100	н	н	13	n	n
Sodium	1.97			0.400	"	"	ıı	н	"
Strontium	0.0739			0.003	п	n	и	н	н
Thallium	U			0.0600	н	H	В	II .	"
Tin	U			0.0200	н	н	н	II.	n
Titanium	0.0420	K		0.006	н	н	и	н	May-21-18
Vanadium	0.0078			0.005	"	n	IJ	И	May-10-18
Zinc	U			0.0300	n	n	"	II .	II.



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E6b (1805007-33)			ampled: May-02-18 15:44		Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	13.6			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	п	II .	n	"	"
Arsenic	U			0.0400	н	H	Ŋ	19	"
Barium	1.10			0.003	п	n	H.	"	"
Beryllium	U			0.002	n	"	п	"	"
Boron	U			0.0500	н	н	н	"	"
Cadmium	U			0.002	н	н	н	0	0
Calcium	30.9			0.200	п	H	н	19	11
Chromium	0.300			0.005	n	n	и	ii .	и
Cobalt	0.0515			0.006	9	H	И	B	ıı
Copper	0.134			0.0200	н	н	н	11	n
Iron	42.9			0.0800	п	ii	и	IJ	n
Lead	U			0.0300	н	H	В	В	и
Lithium	U			0.0250	п	n	н	II.	п
Magnesium	10.7			0.200	В	H	В	11	"
Manganese	1.62			0.008	п	н	и	n	n
Molybdenum	0.0266			0.0120	п	н	и	IJ	n
Nickel	0.0621			0.0120	п	n .	н	В	в
Potassium	3.55			0.800	н	н	В	IJ	n
Selenium	U			0.0500	н	н	п	II .	n
Silver	U			0.0100	п	н	и	n	n
Sodium	2.32			0.400	"	"	n .	II .	"
Strontium	0.186			0.003	n	n	н	н	В
Thallium	U			0.0600	"	"	В	"	"
Tin	U			0.0200	п	н	п	II .	n
Titanium	0.0642	K		0.006	"	n	н	15	May-21-18
Vanadium	0.0603			0.005	"	n	п	II .	May-10-18
Zinc	0.0838			0.0300	n	n	н	"	"



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Reported: May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E7a (1805007-34)			npled: May-02-18 16:09		Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.80			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	n	н	n	n	n
Arsenic	U			0.0400	п	н	н	15	11
Barium	0.246			0.003	n	н	IJ	II .	п
Beryllium	U			0.002	н	н	n	н	n
Boron	U			0.0500	п	н	n	"	"
Cadmium	U			0.002	п	н	IJ	0	n
Calcium	34.0			0.200	n	"	n	"	"
Chromium	0.0942			0.005	n	n	11	II .	"
Cobalt	0.0143			0.006	n	!!	h	ii	
Copper	0.0476			0.0200	н	н	11	"	"
Iron	19.5			0.0800	п	н	n	n	11
Lead	U			0.0300	п	11	n	н	н
Lithium	U			0.0250	п	n	IJ	H.	п
Magnesium	11.9			0.200	н	H	h	!!	"
Manganese	2.11			0.008	п	н	n	n	n
Molybdenum	0.0120			0.0120	п	!!	li li	"	"
Nickel	0.0276			0.0120	п	11	н	н	н
Potassium	23.5			0.800	п	н	и	"	"
Selenium	U			0.0500	п	н	H	"	"
Silver	U			0.0100	п	п	13	n	n
Sodium	4.38			0.400	"	"	"	"	"
Strontium	0.459			0.003	n	n	И	H	"
Thallium	U			0.0600	n	11	h	"	"
Tin	U			0.0200	п	n	n	"	"
Titanium	0.0883	K		0.006	n	н	19	11	May-21-18
Vanadium	0.0177			0.005	"	"	IJ	H	May-10-18
Zinc	U			0.0300	п	n	11	н	В



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E7b (1805007-35)	Matrix: Water	Samj	Sampled: May-02-18 16:35			Received: May-04-18 10:00			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	8.19			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	н	н	н	n	n
Arsenic	U			0.0400	и	!!	Ŋ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	"
Barium	0.272			0.003	"	H .	H.	H	11
Beryllium	U			0.002	n	"	п	II.	"
Boron	U			0.0500	11	II II	n	"	"
Cadmium	U			0.002	н	н	н	D	0
Calcium	46.5			0.200	п	н	н	Ŋ	15
Chromium	0.0503			0.005	п	n	И	и	II.
Cobalt	0.0146			0.006	п	н	И	н	n
Copper	0.0313			0.0200	н	н	п	n	n .
Iron	10.9			0.0800	п	н	и	n	n
Lead	U			0.0300	п	н	В	В	В
Lithium	U			0.0250	п	н	В	И	n
Magnesium	11.2			0.200	В	H	н	11	"
Manganese	1.52			0.008	п	н	н	D	n
Molybdenum	U			0.0120	п	н	и	n	n
Nickel	0.0146			0.0120	п	н	В	В	В
Potassium	15.7			0.800	н	н	В	II .	II .
Selenium	U			0.0500	н	н	п	II .	n .
Silver	U			0.0100	н	н	и	n	n
Sodium	4.40			0.400	"	n .	В	II .	II .
Strontium	0.0562			0.003	n	п	И	В	В
Thallium	U			0.0600	n	н	В	II .	"
Tin	U			0.0200	п	н	И	n .	n
Titanium	0.194	K		0.006	"	н	и	15	May-21-18
Vanadium	0.0325			0.005	"	н	В	И	May-10-18
Zinc	U			0.0300	n	n	н	В	II.



Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605 Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E8a (1805007-36)	Matrix: Water	Samj	oled: May-	-03-18 08:40	Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	4.93	•		0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	н	11	0	0
Arsenic	U			0.0400	и	!!	Ŋ	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Barium	0.223			0.003	"	H .	H.	H	11
Beryllium	U			0.002	n	"	п	II.	"
Boron	0.0685			0.0500	11	II II	n	"	"
Cadmium	U			0.002	н	н	н	D	0
Calcium	60.6			0.200	п	н	н	Ŋ	11
Chromium	0.0598			0.005	п	n	И	и	n
Cobalt	U			0.006	п	н	И	н	n
Copper	0.0354			0.0200	н	н	н	n.	n
Iron	12.6			0.0800	п	н	и	n	n
Lead	U			0.0300	п	н	В	В	н
Lithium	U			0.0250	n	н	н	В	п
Magnesium	11.9			0.200	н	н	В	II	"
Manganese	0.177			0.008	п	н	и	n	n
Molybdenum	U			0.0120	н	н	и	n	11
Nickel	0.0194			0.0120	n	н	н	В	В
Potassium	3.88			0.800	н	н	В	II .	n
Selenium	U			0.0500	н	н	п	II .	n
Silver	U			0.0100	н	н	и	n	n
Sodium	5.08			0.400	"	n .	II .	II .	"
Strontium	0.432			0.003	n	п	н	В	В
Thallium	U			0.0600	"	н	В	II .	"
Tin	U			0.0200	п	н	п	n .	n
Titanium	0.0850	K		0.006	"	н	н	15	May-21-18
Vanadium	0.0208			0.005	"	n	U	И	May-10-18
Zinc	0.115			0.0300	n	n	н	II.	11



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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E8b (1805007-37)	Matrix: Water	Samp	oled: May	-03-18 08:48	Received: May-04-18 10:00				
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	11.6			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	n	H .	n	0	n
Arsenic	U			0.0400	"	"	n	"	
Barium	0.217			0.003	"	"	"	"	n .
Beryllium	U			0.002	n	"	И	II.	n
Boron	0.0862			0.0500	н	н	11	"	"
Cadmium	U			0.002	н	н	1)	D	n
Calcium	47.8			0.200	"	н	н	19	15
Chromium	0.261			0.005	п	n	И	н	и
Cobalt	0.0155			0.006	n	н	'n	и	п
Copper	0.0939			0.0200	п	н	n	n.	n n
Iron	33.9			0.0800	н	н	n	n	п
Lead	U			0.0300	н	н	н	н	В
Lithium	U			0.0250	п	н	И	И	н
Magnesium	20.9			0.200	В	ři	В	11	"
Manganese	0.562			0.008	п	н	ıı	n	n
Molybdenum	0.0339			0.0120	н	Ħ	ıı	n	В
Nickel	0.0410			0.0120	п	ii	н	н	В
Potassium	16.3			0.800	н	n	В	11	II .
Selenium	U			0.0500	н	н	n	II .	n .
Silver	U			0.0100	н	Й	ıı	n	D
Sodium	5.28			0.400	"	"	n	11	н
Strontium	0.162			0.003	n	n	И	н	В
Thallium	U			0.0600	n	n	В	"	"
Tin	U			0.0200	n	н	n	"	n
Titanium	0.181	K		0.006	"	н	н	11	May-21-18
Vanadium	0.0465			0.005	"	n	n	II .	May-10-18
Zinc	0.696			0.0300	n	n	II .	H	н



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Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E10a (1805007-38) Analyte	Matrix: Wate		Sampled: May-03-18 07:15		Received: May-04-18 10:00				
	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	2.10			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	н	И	n	n	n
Arsenic	U			0.0400	н	"	и	11	11
Barium	0.137			0.003	"	"	II.	"	"
Beryllium	U			0.002	"	"	ii.	H	n .
Boron	U			0.0500	n .	н	"	"	"
Cadmium	U			0.002	п	н	11	n	0
Calcium	13.2			0.200	"	H	p	19	
Chromium	0.0350			0.005	n	н	H	IJ	n
Cobalt	U			0.006	H	н	h	ii.	ıı
Copper	U			0.0200	н	н	n	ıı	n
Iron	7.83			0.0800	п	н	n	IJ	11
Lead	U			0.0300	п	н	н	В	н
Lithium	U			0.0250	п	н	И	IJ	п
Magnesium	4.54			0.200	n	н	17	"	"
Manganese	0.238			0.008	п	н	n	n	n
Molybdenum	U			0.0120	н	н	ij	IJ	1)
Nickel	U			0.0120	п	И	н	В	н
Potassium	0.948			0.800	n	н	И	ıı	May-21-18
Selenium	U			0.0500	п	н	n	II .	May-10-18
Silver	U			0.0100	н	Й	и	D	n
Sodium	1.82			0.400	"	n n	n .	II .	"
Strontium	0.0218			0.003	n	п	н	В	и
Thallium	U			0.0600	n	н	н	"	"
Tin	U			0.0200	н	н	n	II .	n
Titanium	0.0547	K		0.006	"	и	и	15	May-21-18
Vanadium	0.0145			0.005	"	п	n .	II .	May-10-18
Zinc	U			0.0300	n	n	II.	н	11



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E10a Dup (1805007-39)	Matrix: Water		Sampled: May-03-18 07:15			Received: N			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	1.20			0.200	mg/L	l	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	п	н	ıı	n	"
Arsenic	U			0.0400	n	n n	ii	11	"
Barium	0.0845			0.003	"	n.	ii	II	"
Beryllium	U			0.002	n	п	"	"	"
Boron	U			0.0500	н	н	II	"	"
Cadmium	U			0.002	н	п	ıı	n	n
Calcium	12.9			0.200	n.	n n	ij	15	16
Chromium	0.0213			0.005	п	п	IJ	II	II .
Cobalt	U			0.006	n	"	"	"	"
Copper	U			0.0200	н	н	IJ	"	"
Iron	4.60			0.0800	н	н	IJ	II	n .
Lead	U			0.0300	n	n	H	II	"
Lithium	U			0.0250	n	n	II .	"	"
Magnesium	4.52			0.200	н	н	n	"	"
Manganese	0.130			0.008	н	п	IJ	n	"
Molybdenum	U			0.0120	n	n	ıı	"	"
Nickel	U			0.0120	n	n	H	II	"
Potassium	0.804			0.800	н	п	IJ	"	May-21-18
Selenium	U			0.0500	н	п	II	"	May-10-18
Silver	U			0.0100	п	н	n	n	n
Sodium	1.79			0.400	"	"	"	"	"
Strontium	0.0181			0.003	n	n	11	II.	11
Thallium	U			0.0600	11	"	Ŋ	"	"
Tin	U			0.0200	п	n .	IJ	"	"
Titanium	0.0255	K		0.006	"	"	H	11	May-21-18
Vanadium	0.0088			0.005	"	"	"	II .	May-10-18
Zinc	U			0.0300	n	n	H	н	II.



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Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E10b (1805007-40)	Matrix: Wat	er San	Sampled: May-03-18 07:27			Received: May-04-18 10:00			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	16.1			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	n	II .	II	n	0
Arsenic	U			0.0400	"	li .	"	11	"
Barium	0.279			0.003	"	"	"	II .	"
Beryllium	U			0.002	n	"	11	W .	"
Boron	U			0.0500	11	N	1)	II	"
Cadmium	U			0.002	п	н	11	Ð	0
Calcium	17.3			0.200	n	H	н	9	
Chromium	0.386			0.005	n	n	U	H	n
Cobalt	0.0162			0.006	11	Ħ	þ	H	n
Copper	0.112			0.0200	н	н	IJ	W	n
Iron	44.4			0.0800	n .	Ħ	ij	11	11
Lead	U			0.0300	n .	"	B	Ħ	н
Lithium	U			0.0250	п	п	IJ	И	п
Magnesium	8.33			0.200	11	Ħ	19	"	"
Manganese	1.01			0.008	н	Ħ	t)	n	n
Molybdenum	0.0356			0.0120	11	Ħ	ij	11	n
Nickel	0.0470			0.0120	н	ij	B	R	н
Potassium	2.89			0.800	п	Ħ	р	11	May-21-18
Selenium	U			0.0500	н	Й	ij	ij	May-10-18
Silver	U			0.0100	н	Й	и	Ü	n
Sodium	2.14			0.400	"	"	"	II	"
Strontium	0.0550			0.003	n	n	H	н	В
Thallium	U			0.0600	n	n	11	"	"
Tin	U			0.0200	н	н	IJ	"	n .
Titanium	0.441	K		0.006	n	n	н	15	May-21-18
Vanadium	0.0480			0.005	n	II .	"	II .	May-10-18
Zinc	0.0844			0.0300	n	n	ii.	H	"



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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

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May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

Maniman	FB4 (1805007-41) Analyte	Matrix: Water	Sam	Sampled: May-03-18 07:36			Received: May-04-18 10:00			
Antimony Arsenic Arsenic Arsenic Bardum Bard		Result		MDL		Units	Dilution	Batch	Prepared	Analyzed
Assentic C	Aluminum	U			0.200	mg/L	1	B18E018	May-09-18	May-10-18
Marium	Antimony	U			0.0200	n n	н	n	"	"
Beryllium	Arsenic	\mathbf{U}			0.0400	и	!!	Ŋ	19	"
Servind	Barium	U			0.003	"	H .	II.	"	"
Cadmium	Beryllium	U			0.002	11	11	н	B.	II.
Calcium Classium Classium Clobalt Cobalt Copper	Boron	U			0.0500	н	H	n	"	"
Chromium Chomium Cobalt Copper U ORONO ORO	Cadmium	U			0.002	н	н	и	0	0
Cobalt U 0.006 "	Calcium	${f U}$			0.200	п	н	В	19	11
Coper	Chromium	U			0.005	п	н	В	И	и
Tron	Cobalt	U			0.006	п	н	В	ıı	ıı
Lead	Copper	U			0.0200	н	н	п	11	n
Lithium U 0.0250 " <t< td=""><td>Iron</td><td>U</td><td></td><td></td><td>0.0800</td><td>п</td><td>н</td><td>IJ</td><td>IJ</td><td>n</td></t<>	Iron	U			0.0800	п	н	IJ	IJ	n
Magnesium U 0.200 " <	Lead	U			0.0300	н	н	В	В	В
Manganese U 0.008 " <	Lithium	U			0.0250	n	н	И	II.	п
Molybdenum U 0.0120 " May-10- Selenium U 0.0500 " " " " " May-10- Silver U 0.0100 " " " " " " " " May-10- Silver U 0.0400 "<	Magnesium	U			0.200	н	н	В	11	n
Nickel U 0.0120 " " " " " May-21- Potassium U 0.0500 " " " " " May-10- Silver U 0.0100 " " " " " " " May-10- Solium U 0.0400 " " " " " " " " " " " " " " " " " "	Manganese	U			0.008	п	н	п	n	n
Potassium U 0.800 " " " " May-21- Selenium U 0.0500 " " " " May-10- Silver U 0.0100 "	Molybdenum	U			0.0120	н	н	B	IJ	n
Selenium U 0.0500 " " " May-10-10-10-10-10-10-10-10-10-10-10-10-10-	Nickel	U			0.0120	n	н	В	В	в
Silver U 0.0100 " <th< td=""><td>Potassium</td><td>U</td><td></td><td></td><td>0.800</td><td>н</td><td>н</td><td>В</td><td>IJ</td><td>May-21-18</td></th<>	Potassium	U			0.800	н	н	В	IJ	May-21-18
Sodium U 0.400 "	Selenium	U			0.0500	п	н	п	II .	May-10-18
Strontium U 0.003 " <	Silver	U			0.0100	n	н	п	n	n
Thallium U 0.0600 " May-21- Vanadium U 0.005 " " " " " May-10-	Sodium	U			0.400	"	n .		II .	"
Tin U 0.0200 " " " " " " " " " May-21- Vanadium U 0.005 " " " " May-10-	Strontium	U			0.003	n	n	н	н	В
Titanium U K 0.006 " " " " May-21- Vanadium U 0.005 " " " " May-10-	Thallium	U			0.0600	"	n	В	"	"
Vanadium U 0.005 " " " May-10-	Tin	U			0.0200	"	н	п	"	"
vanadium 0 0.005 May-10-	Titanium	U	K		0.006	"	n	н		May-21-18
Zinc U 0.0300 " " " "	Vanadium	U			0.005	"	"	II .	"	May-10-18
A STATE OF THE STA	Zinc	U			0.0300	n	n	И	II .	"



Chicago Regional Laboratory

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Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
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Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E10 Equip (1805007-42)	Matrix: Water		Sampled: May-03-18 07:13			Received:			
Analyte	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	U			0.200	mg/L	l	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	н	н	n	n	n
Arsenic	U			0.0400	"	"	и	15	"
Barium	0.0067			0.003	"	"	"	II .	May-21-18
Beryllium	U			0.002	n	n	H	W .	May-10-18
Boron	U			0.0500	"	И	"	li .	"
Cadmium	U			0.002	H .	н	11	n	"
Calcium	0.867			0.200	"	н	19	9	"
Chromium	\mathbf{U}			0.005	n	н	II.	ij	п
Cobalt	U			0.006	"	н	h	H	ii
Copper	\mathbf{U}			0.0200	н	н	n	W.	"
Iron	0.508			0.0800	n	н	n	11	11
Lead	U			0.0300	"	n	B	Ħ	B
Lithium	U			0.0250	n	n	H	Ħ	n .
Magnesium	0.240			0.200	"	Ħ	13	"	"
Manganese	0.0119			0.008	n	н	n	n	0
Molybdenum	U			0.0120	"	п	Ŋ	11	"
Nickel	U			0.0120	"	н	H	н	В
Potassium	U			0.800	n	н	п	W .	May-21-18
Selenium	U			0.0500	"	н	n	"	May-10-18
Silver	U			0.0100	н	н	n	Ü	n
Sodium	1.08			0.400	"	"	IJ	11	"
Strontium	U			0.003	n	n	11	н	II.
Thallium	U			0.0600	п	11	н	"	"
Tin	U			0.0200	п	н	n	"	"
Titanium	U	K		0.006	п	"	и	15	May-21-18
Vanadium	U			0.005	n	"	II.	II .	May-10-18
Zinc	0.0302			0.0300	n	п	H	н	II.

Report Name: 1805007 Metals ICP-AES (w) FINAL May 31 18 1359

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May-31-18 13:59



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Water Division, WECA Region 5 Project: Central Sands
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Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E9a (1805007-43) Analyte	Matrix: Water	Samp	Sampled: May-03-18 09:53			Received: May-04-18 10:00			
	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	3.35			0.200	mg/L	l	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	н	н	H	D	n
Arsenic	U			0.0400	n .	н	Ŋ	, , , , , , , , , , , , , , , , , , ,	11
Barium	0.156			0.003	"	"	n.	II .	II.
Beryllium	U			0.002	11	н	ii		n.
Boron	U			0.0500	11	!!	ii	"	"
Cadmium	U			0.002	н	н	H.	n	n
Calcium	49.0			0.200	п	H	и	19	11
Chromium	0.0852			0.005	п	н	Ħ	ij.	II.
Cobalt	U			0.006	п	н	Ŋ	n	n.
Copper	0.0598			0.0200	н	н	n	II .	"
Iron	15.9			0.0800	п	н	й	IJ	n
Lead	U			0.0300	п	н	н	В	В
Lithium	U			0.0250	n	н	И	II	II .
Magnesium	18.7			0.200	н	н	ij	"	"
Manganese	0.240			0.008	п	н	и	D	n
Molybdenum	U			0.0120	н	н	IJ	IJ	n
Nickel	0.0201			0.0120	n	н	н	И	II .
Potassium	3.84			0.800	н	н	н	II .	May-21-18
Selenium	U			0.0500	н	н	ij	ii .	May-10-18
Silver	U			0.0100	н	н	и	D	0
Sodium	4.38			0.400	"	n	n .	"	"
Strontium	0.249			0.003	n	п	н	II .	11
Thallium	U			0.0600	"	н	и	"	"
Tin	U			0.0200	п	н	n	II .	"
Titanium	0.0496	K		0.006	"	н	н	li .	May-21-18
Vanadium	0.0502			0.005	"	н	U	ıı	May-10-18
Zinc	0.135			0.0300	n	n	И	н	II.



Chicago Regional Laboratory

536 South Clark Street, Chicago, IL 60605 Phone:(312)353-8370 Fax:(312)886-2591

Water Division, WECA Region 5 Project: Central Sands
77 West Jackson Boulevard Project Number: CB022018
Chicago IL, 60604 Project Manager: Cheryl Burdett

Reported:

May-31-18 13:59

Metals by ICP-AES using EPA 200.7 (modified) US EPA Region 5 Chicago Regional Laboratory

E9b (1805007-44) Analyte	Matrix: Water	Samp	oled: May	-03-18 10:02	Rece	ived: May-04			
	Result	Flags / Qualifiers	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed
Aluminum	9.52			0.200	mg/L	l	B18E018	May-09-18	May-10-18
Antimony	U			0.0200	"	H	ıı	n	n
Arsenic	U			0.0400	n.	H	ı,	"	15
Barium	0.327			0.003	п	H	U	II.	11
Beryllium	U			0.002	"	H	И	II.	II .
Boron	U			0.0500	п	H	ii	"	11
Cadmium	U			0.002	н	н	11	D	D.
Calcium	45.1			0.200	п	H	19	19	
Chromium	0.294			0.005	п	n	U	II .	н
Cobalt	0.0267			0.006		Ħ	11	it.	n
Copper	0.0924			0.0200	п	н	n	"	n.
Iron	40.5			0.0800	п	Ħ	n	11	11
Lead	U			0.0300	n	"	н	н	#
Lithium	U			0.0250	n	Ħ	И	II.	н
Magnesium	15.6			0.200	н	H	1)	"	"
Manganese	1.04			0.008	п	Ħ	17	n	n
Molybdenum	0.0371			0.0120	п	Ħ	11	1)	11
Nickel	0.0435			0.0120	n	ij	н	н	В
Potassium	7.67			0.800	n	Ħ	В	11	May-21-18
Selenium	U			0.0500	н	Й	n	II .	May-10-18
Silver	U			0.0100	п	н	n	n	n
Sodium	4.81			0.400	"	"	u	"	"
Strontium	0.366			0.003	n	n	И	н	н
Thallium	U			0.0600	n	n	р	"	"
Tin	U			0.0200	н	н	n	"	"
Titanium	0.284	K		0.006	"	n	n	11	May-21-18
Vanadium	0.0605			0.005	"	II .	II .	II .	May-10-18
Zinc	0.184			0.0300	n	n	II .	H	н



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Notes and Definitions

The identification of the analyte is acceptable; the reported value may be biased high. The actual value is expected to be less than

the reported value.

U Not Detected

NR Not Reported

Q QC limit Exceeded